

CONSTRUCT VALIDATION OF AN INSTRUMENT TO MEASURE TEACHER ATTITUDE
TOWARD THE USE OF INTERNATIONAL CONTENT IN THE K-12
SOCIAL STUDIES CURRICULUM

By

THOMAS OWEN ERB

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To Karen, Christopher, and Gregory

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Thomas Owen Erb

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Chairperson: Arthur J. Lewis
Cochairperson: Linda M. Crocker
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Over the past decade educational researchers have established the importance of teacher attitudes for the success of educational programs. However, little was known specifically about teacher attitudes toward international content in the curriculum. Consequently, it was necessary to learn more about these attitudes. Since no reliable or valid scales existed to measure such attitudes, this study sought to develop and validate the needed instrumentation, which has been titled the Florida International Curriculum Assessment Scales (FICAS).

Using Cronbach's alpha as the measure of internal consistency, this study employed three established techniques employed for testing construct validity: Correlates, group differences, and study of change over occasions. Three subscales of the FICAS were tested for validity. After data were collected from 131 experienced teachers, scores on the three FICAS subscales were correlated with the Worldmindedness Scale (W-Scale) total score and the Florida African Knowledge Scale (FAKS) total score. After this procedure was completed, the scores on the FICAS subscales of these 131 teachers who represented a cross section of the

general teacher population were compared to those of 49 teachers from the Southeast and Midwest who elected to participate in summer institutes on African studies. Finally, the pretest scores of these institute participants were compared to their posttest scores to see if the subscales of interest could detect change in attitude as a result of institute participation.

The Florida International Curriculum Assessment Scales proved to have high reliability and adequate validity to justify their use in further studies. Estimates of coefficient alpha ranged from .87 to .93 for the three subscales under study. Both the International (INTTOT) and Either/or (EORTOT) subscales showed the expected correlation with the W-Scale. The Nationalistic (NATTOT) subscale had a nonsignificant correlation with the W-Scale. None of the subscales produced the predicted correlation with the FAKS. All three subscales were successful in measuring a difference between the cross section of teachers and those self-selected for institute participation. The results were inconclusive from the study of change over occasions. A multivariate F test suggested that the subscales did not detect a significant change over occasions. However, EORTOT's significant univariate F test suggested that further validation work needed to be done on EORTOT.

Because of their positive correlations with the W-Scale and because of their ability to distinguish between groups which should be different on the attribute being measured, both INTTOT and EORTOT are recommended for further research. Validated for African content, these two subscales need to be validated for other international studies areas. Research to establish their relationship to other constructs such as beliefs systems or level of cognitive moral development could prove fruitful. They also

have potential for basic research into the formation of attitudes as well as into the consequences of holding certain attitudes. These scales may also prove to be useful evaluation devices in either pre or inservice teacher education where an internationalization of perspectives is an intended result of instruction. Finally, the social studies objectives comprising the items on these scales could be used to help teachers develop teaching strategies for using international content.

CHAPTER ONE RESEARCH PROBLEM

The Problem

Ignorance of the world beyond our borders is a luxury that Americans cannot afford. Schools must play a positive role in increasing knowledge of the non-Western world while working to diminish ethnocentric attitudes toward these areas. However, neither preservice nor inservice teacher education gives much, if any, emphasis to developing the knowledge and attitudes consistent with teaching from a cross-cultural or global perspective. Recognizing this deficiency the United States Office of Education has funded 80 language and area studies centers (including eight African studies centers) at universities throughout the country (Easton, 1977). As a condition of funding, these centers are to engage in outreach work aimed at creating greater international understanding among American public school pupils, teachers, and the community at large. These funded centers have full discretion in developing outreach programs, and several of them, including those at the University of Florida and the University of Illinois, have chosen to emphasize preparing public school teachers to teach African content to their students. Have these outreach efforts been effective in altering teacher attitudes toward the usefulness of African content to meet accepted social studies objectives? Prior to this study there has been no valid means to assess such change in teacher attitudes.

Consequently, this study was designed to develop a reliable and valid method of assessing teachers' attitudes toward African content in the curriculum. The resulting instrument was intended to be one that could be used to measure change in teacher attitudes as a result of preservice or inservice experiences designed to broaden teachers' perceptions of the relevance of African content. In addition, the instrument was intended to be useful for more basic research on attitudes, their formation, and consequences.

This study was confined to validating an instrument specifically for African content rather than international content generally. This decision was made because the concept of international content was rather vague since it subsumed many geographical areas or divisions of the world about which individual teachers were likely to have diverse opinions: Latin America, Europe, Canada, Asia, the non-Western world, the Third World, the Communist world, and so forth. For greater conceptual clarity it seemed necessary to define a specific international region for this validation study. Africa was chosen because of the researcher's familiarity with programs aimed at improving African studies in the public schools through teacher inservice education. However, any other international region might have served equally well.

Need

As never before Americans need to have an understanding of human experience that transcends parochial perspectives. Decisions made in centers of power in one area of the world can effect people on all continents. Edwin O. Reischauer (1973) states the case for international education in this way:

Before long, humanity will face many difficulties that can only be solved on a global scale. For this there must be a much higher degree of understanding and a far greater capacity for cooperation between disparate peoples and nations than exist now. Education, however, as it is presently conducted in this country -- and in every other country in the world, for that matter -- is not moving rapidly enough in the right direction to produce the knowledge about the outside world and the attitudes toward other peoples that may be essential for human survival within a generation or two. This, I feel, is a much greater international problem than the military balance of power that absorbs so much of our attention today. (p. 4)

Americans, who inhabit the most powerful national entity, cannot afford to remain ignorant of conditions elsewhere in the world. Africa, Asia, and Latin America have a place in our lives beyond a mere interest in the exotic.

In agreeing with the need for better international studies, educators have recognized the need for both curricular reform (Dow, 1976) and positive teacher attitudes (Billings, 1971; Rich, 1976). Yet so little is done in colleges and teacher training institutions to prepare teachers to adequately handle international studies in their teaching (Almgren & Gustafsson, 1974; Bidwell, 1964; Carver, cited in Klassen & Moore, 1968; Intercultural Understanding, 1972; Phillips, 1963; Taylor, 1968/1969; Wise, 1975a, 1975b). Often those teachers who do attempt to handle international topics leave their students with more negative and stereotyped images than they had when they began their study (Almgren & Gustafsson, 1974; Beyer & Hicks, 1968; Eicher, 1975). However, where teachers were well prepared and held positive attitudes about international education, students' knowledge and attitudes improved as well (Almgren & Gustafsson, 1974; Frech, 1973, 1975; Klassen & Moore, 1968).

Because of inadequate preservice training, inservice components are needed to help teachers gain the competencies necessary to teach about foreign cultures. Outreach programs such as those offered by the African Studies Centers at the Universities of Florida, Illinois, and Wisconsin give teachers the opportunity to participate in workshops and institutes aimed at increasing their substantive knowledge of Africa and helping them expand their perceptions of the value of integrating African content into the social studies curriculum. Teachers are exposed to films, lectures, and discussions on African topics; participate in modified African cultural experiences; meet African scholars and students; and are introduced to curricular materials and teaching strategies which are designed to improve their teaching of Africa.

Naturally, the people who administer African studies outreach programs are interested in teachers' knowledge of, and attitudes toward, African content in the curriculum. A search of the literature revealed no studies of teachers' attitudes toward teaching about Africa. A private communication with Prof. Marion J. Rice of the Anthropology Curriculum Project at the University of Georgia has confirmed that, aside from content-specific instruments of questionable validity, there was no reliable, valid measure of teachers' attitudes toward Africa in the curriculum. At the University of Illinois workshop in 1974, transactional analysis was used to evaluate the interaction among workshop participants and the attitudes of the workshop participants toward the workshop format and its subject matter content (Schmidt, 1975). However, the instrumentation failed to produce data that would allow an objective evaluation of the teacher attitudes involved. In fact, the teacher attitudes studied in the Illinois project were not directly related to the curricular

issue of using African material in the classroom, but focused on the internal workings of the workshop itself. Thus there was a need to design, develop, and validate a reliable attitude scale that would be suitable for assessing the formation of attitudes, the influence of attitudes, and change in attitudes toward including African material in the curriculum. Without such instrumentation no research or objective evaluation could take place to assess the impact of inservice education on teacher attitudes.

Definitions

Attitude

Attitude is the psychological construct which refers to the composite of all feelings about, and predispositions for behavior toward, some object. Although attitudes are covert, they find overt expression in the form of verbalized opinions thus making them measurable. Though based on cognitive processes, attitudes are primarily affective in nature. As measured by attitude scales, an attitude is represented by a score which corresponds to the point along an underlying continuum which defines the degree of positive evaluation attached to a specific referent by an individual (see Fishbein, 1967, pp. 257-260; Oppenheim, 1966, pp. 105-112; Osgood, 1967, p. 112; Shaw & Wright, 1967, pp. 2-7; Thurstone, 1967, pp. 77-79).

African Content

The attitude referent in this study is the inclusion of African content in the established K-12 curriculum. The use of African content

is not restricted to an area studies approach where students focus in turn on various culture areas of the world. African content refers to any materials (games, recordings, readings, case-studies, maps, films, biographies, activity packs, learning centers, speakers, field trips, kits, etc.) which are used with students to achieve some curricular objective regardless of the organizing principle under which the objective fits. A teacher's attitude toward including African content is of interest regardless of whether the framework is world geography, world cultures, peace studies, future studies, development studies, global studies (see Becker, 1973), or any other conceptual scheme under which African content could be subsumed.

African Studies Outreach Institutes

For the purposes of this study African studies outreach institutes refer to one two-week summer institute and one four-week summer institute aimed at expanding teacher awareness of Africa and developing new approaches to teaching about Africa. The institutes include three components. The first uses formal presentations to disseminate information about Africa. A second involves the teachers in cultural activities including African music, films, art, and cuisine. The third component involves the teachers in developing materials and teaching strategies for teaching about Africa.

Internal Consistency

Reliability is the accuracy with which a test measures that which it measures. A reliability coefficient expresses the squared correlation

between subjects' observed scores on an instrument and their true scores on the trait being measured. When individual test items have high correlations with the total test score relative to their item variances, the test of which they are a part is said to possess high internal consistency which is a measure of reliability if the test is intended to be homogeneous, as in an attitude scale designed to measure only one dimension (see Cronbach, 1967, pp. 132-167; Kuder & Richardson, 1937, pp. 151-160; Lord & Novick, 1968, pp. 61, 87-95, 139-140, 211-214, 331; Remmers, Gage, & Rummel, 1965, pp. 129-130).

Construct Validity

Construct validity is the degree to which a test measures the construct or attribute that it is designed to measure. The construct or attribute is not operationally defined. Therefore, the problem is for the researcher in construct validation to identify the construct or constructs which account for the variance on a test (see Campbell & Fiske, 1959, p. 100; Cronbach & Meehl, 1967, pp. 243-270; Lord & Novick, 1968, pp. 261, 278-279).

Construct Validation

Cronbach and Meehl (1967) describe a variety of techniques that are used to establish the construct validity of a test. They conclude that the problem is not to determine that a test is valid for measuring a construct but to state as definitely as possible the degree of validity the test is presumed to have (p. 255). A major test of construct validity that was used in the current study is the group differences

method (p. 251). Construct validity can be demonstrated if groups which should differ in the construct do in fact have different mean scores on the instrument. In addition, to establish construct validity it must be determined that the construct being measured logically relates to other similar constructs (p. 252). Consequently, the scores on the attitude scale should correlate with measures of other constructs related to attitude toward African content in the curriculum. As a final test of construct validity a study of change over occasions (p. 253) was conducted to see if the attitude scale could detect change in attitude toward using African content in the curriculum as a result of participation in summer institutes aimed at increasing teacher competence in the area of African studies.

In order to test the construct validity of a new instrument it was necessary to state specific hypotheses concerning the outcomes of the proposed analyses. If the analyses confirmed the hypotheses, then construct validity would be established for the instrument. In the hypotheses one had to state the expected outcomes and the criteria by which judgments would be made about whether the hypotheses were confirmed or not.

Listed in the next section are the set of hypotheses which if confirmed by statistical analyses would establish the construct validity of the Florida International Curriculum Assessment Scales (FICAS), the name chosen for the attitude instrument developed in this study. The Overall Hypothesis provided a framework within which specific tests of construct validity could be designed. Operational Hypothesis One did not directly deal with establishing construct validity but with resolving a question as to whether or not teachers' ratings of the relevance of African content would be affected by the nature of the test format. Specifically, if

teachers were asked to rate the relevance of African content along with the relevance of Latin American or European content, would their ratings of Africa be affected? Consequently, three forms of the FICAS were developed -- one asking teachers to rate African content only; a second, African and Latin American content; and a third, African and European content.

Hypotheses Two through Five were designed to test the construct validity of the various FICAS subscales. Hypotheses Two and Three state expected correlations between the FICAS subscales and related constructs: worldmindedness and knowledge of Africa as measured by the Florida African Knowledge Scale (FAKS). Hypothesis Four is based on the group differences technique to test whether the instrument could detect an expected difference between a pilot group consisting of a cross section of teachers and the institute groups consisting of teachers who were self-selected to participate in summer institutes on African studies. Hypothesis Five was designed to test whether or not the FICAS could detect a change in attitude that was expected to occur as a result of participation in the summer institutes.

Hypotheses

Overall Hypothesis

There exists in teachers an attitude toward teaching about Africa that can be measured by having teachers evaluate the importance of social studies objectives and the relevance of African content to achieving these objectives.

Operational Hypotheses

One. There will be no significant differences ($p < .25$) among the mean scores of subjects in the pilot sample assigned to three different forms of the Florida International Curriculum Assessment Scales.

Two. There will be a significant positive correlation ($p < .05$) between scores on the Florida International Curriculum Assessment Scales and scores on the Worldmindedness Scale.

Three. There will be a positive significant ($p < .05$) correlation between scores on the Florida International Curriculum Assessment Scales and scores on the Florida African Knowledge Scale.

Four. Subjects who elect to participate in a curriculum workshop on Africa will have a significantly higher mean score ($p < .05$) on the Florida International Curriculum Assessment Scales than a comparison group of a cross section of teachers.

Five. The mean posttest scores of a group of teachers enrolled in an African studies center summer institute will be significantly ($p < .05$) higher than their mean score on a pretest of the Florida International Curriculum Assessment Scales.

Significance

The validation of an attitude scale to measure teachers' attitudes toward African material in the curriculum is expected to open the door to a variety of research applications. The instrument, coupled with a knowledge test, can be used by African studies outreach programs throughout the United States to assess the impact of their efforts. The attitude and knowledge instruments can be used as pre and posttests

to evaluate change as a result of workshops, seminars, or course treatments.

In addition to program evaluation, the newly constructed instrument can be used to measure attitude as either an independent or dependent variable in more basic research studies. For those who are designing outreach and/or inservice components for teachers, it may be well to know what factors relate to teachers' attitudes about Africa in the curriculum. Knowing what factors most influence the formation of these attitudes, designers of teacher education programs can take this information into account. Other researchers may be interested in using the scale to relate attitudes and other variables to pupil performance. The hypothesized importance of teacher attitudes for pupil growth could be empirically tested.

The design of the attitude scale in the current project could easily be adapted to measure attitude toward other content areas as well. The adapted instrument could assess the perceived relevance of any designated content domain for achieving social studies objectives or even general education objectives. For although this study is focusing on social studies objectives, both Engle (1965) and Metcalf (1963) maintain that social studies objectives are often indistinguishable from those for general education.

CHAPTER TWO REVIEW OF LITERATURE

This review of literature demonstrates the scholarly concern for international education in its many manifestations. However, in spite of that concern, very little is being done in our public schools or teacher training institutions to promote international education. The second theme developed is that teacher attitudes toward educational processes as well as toward students themselves have been demonstrated to play a major role in the success or failure of educational programs. Finally, the methodological literature explicating issues in attitude measurement is reviewed. The unifying factor is the importance of teacher attitude for the success of international education programs.

International Education

The Theoretical Need

The occurrence of a second world war provoked some social scientists into conceptualizing a "moral equivalent to war" (G. Murphy, 1945). Central to their prescriptions for a new world order was the conviction that education needed to be freed from nationalism to become worldminded in orientation (pp. 240-242). By this the social scientists meant that education should focus on preparing students for intelligent world citizenship based upon democracy at home (p. 242). Just four years later Maria Montessori published her Educazione e Pace (1949/1972) calling for

education to encourage the spiritual and moral development of individuals in an effort to promote a peaceful world.

Growing out of the breakdown of world order in the 1940's were the intellectual threads calling for greater international understanding which were to be picked up by educators in the 1960's. At that time there arose a tide of criticism among social studies educators against the ethnocentric orientation of American schooling. The basic organization of social studies curricula had not changed since the 1916 National Education Association Committee on Social Studies of the Commission on the Reorganization of Secondary Education recommended a grades seven to twelve scope and sequence which centered on U.S. and European history and civics. Relatively new social sciences such as sociology and anthropology were excluded from the recommendations as was any mention of non-Western history or culture (Massialas & Cox, 1966). Masia (1963) in his study of schools accredited by the North Central Association of Colleges and Secondary Schools confirmed that high schools continued to ignore non-Western areas of the world right into the 1960's. Separate courses dominated by American and world (European?) history characterized the curriculum (Massialas & Cox, 1966; Moreland, 1962).

By the early 1960's several writers were calling for efforts to internationalize the social studies curriculum. Harland Cleveland (1960) suggested that an undergraduate education in foreign affairs should develop cultural empathy or skill in understanding the inner logic of other ways of life as well as the predisposition to refrain from condemning these ways of life because they are different. If promoting world peace and international understanding were to become educational goals, Stearns (1966) asserted that teacher education must

identify and clarify the information, attitudes, and skills that are related to worldmindedness. He urged the establishment of an independent international curriculum laboratory, world college centers, and a foundation for international education. In 1966, the U.S. Congress gave impetus to the movement by passing the International Education Act. This act called for developing knowledge of other countries to promote mutual understanding and to strengthen relations between the United States and other countries (quoted in Klassen & Moore, 1968, p. 3). Edwin O. Reischauer (1973) added his stature to the debate by criticizing the past orientation of emphasis on Western Europe. He urged that the various cultural dimensions of the non-Western world be given more emphasis.

Concerned scholars and educators have attempted to describe international education and non-Western studies as they would apply to a school curriculum. Bohannon (1973) defined intercultural education "as a structuring of learning experiences that will help both students and teachers understand and use concepts for understanding and working toward solutions of individual and intergroup problems -- local, international, and world wide -- that arise from cultural diversity" (p. 31). He offered a conceptual framework for intercultural education built on the view that culture is two-tiered. The "macroculture" is based on power and is large-scale, shared, and worldwide. "Microculture" is based on love and trust or special interests and is small-scale and family and community oriented (p. 19). He argued that educators needed to distinguish the two cultures and rebuild schools accordingly in order to (a) enable everyone to negotiate the stairs between macroculture and microculture equally well in both directions and (b) teach people about

the nature of the many microcultures in order to reduce fear of one for the next (p. 20). He presented three key values which should underlie education in the two-tiered framework. At the macro level the principal value is "equality of opportunity for all." He suggested that "live and let live" should govern affairs within and between microcultures. Thirdly, equal access to the stairs between micro and macroculture should be guaranteed. Bohannon insisted that his approach is neither anti-patriotic nor culturally relativistic sentimentalism.

In the early 1970's global studies became the focus of several educators interested in international education. Marion (1973) proposed peace studies which concentrate on the issues of human aggression and conflict resolution from the interpersonal to the international level. In a monograph Global Development Studies (1973) the Management Institute for National Development outlined a senior high curriculum that goes beyond the transfer of knowledge to the changing of the students' perceptions of reality. Consciousness raising and values examination in relationship to international development issues constitute major objectives in this program. Becker (1973, 1974) advocated a curriculum which helps students to see the world as others see it, to become aware of and adept at using alternative sources of information and evaluation, and to develop a willingness to consider competing views of reality. Boyer (1975) added a futures component to the process of developing a world view among students. Dahlberg (1974) and UNESCO (The UNESCO Associated Schools, 1975) conceptualized a global studies approach based on the relationships between people and their environments. Concentrating on the theme of interdependence Almgren and Gustafsson (1974) suggested that international education is a requisite for human survival.

A majority of American public school teachers share a concern for greater international understanding. Eighty percent who responded to a recent National Education Association questionnaire said better cooperation among nations was a key issue in promoting a peaceful world community (McCarron & McCune, 1974).

Within the broad framework of international education several recent books have been written to guide teachers and curriculum planners in using African content. E.J. Murphy and Stein (1973) suggested six broad reasons for including Africa in the social studies curriculum. Under the headings of superficiality and ethnocentricity, Hall (1977) has categorized 30 problems which currently exist with the treatment of Africa in American textbooks. The African-American Institute (Collins, 1970), Boyer (1969), and Willmer (1975) provided practitioners with both theoretical considerations and concrete suggestions for including an African perspective in a social studies program.

Existing Programs

Over the past two decades, intellectual leadership has offered a variety of conceptual frameworks for incorporating international studies into the curriculum. A key concern is to what extent these scholarly appraisals and recommendations have found their way into the curricula of American schools and into the instructional strategies of its teachers. John Lee (1974) offered a somewhat hopeful view. He detected several trends in the late 1960's and early 1970's which suggested that curricula were being internationalized: International education was beginning earlier in the child's schooling, the concept of the world had been broadened to include the non-West, and there was a shift to the study

of the world's people as a society (a global view as opposed to the study of one nation after another) (p. 149). Though some encouraging shifts may be occurring, Rose Hayden (1976) said the response of American public education to the challenge of preparing citizens to respond intelligently to global problems was inadequate. She was particularly critical of state education agencies which she claimed did not perceive the need to provide leadership for globalizing public education. In spite of some global curriculum development, some inservice training on international topics, and increased stress on international training in teacher education, too little has been done to internationalize public instruction or to evaluate its results against global goals and objectives.

The Aspen Institute has formed a national commission on coping with interdependence (Morehouse, 1975). The institute is concerned with two questions: First, to what extent do American institutions perceive the predicament of interdependence and its implications; second, what new attitudes and arrangements may be required to enhance the capacity of Americans to cope with it? The findings revealed that educational institutions are ill-equipped to deal with the issue of interdependence because it is perceived as a national concern while schools are run as a state and local responsibility. For this and other reasons, it was concluded that much of the burden for creating a civic literacy on interdependence issues would have to be born by institutions other than formal educational ones.

Nonetheless, some schools and other supporting agencies have made attempts to change curriculum and reorient inservice to implement international education. Several school districts have developed international studies programs of one nature or another (Freeman, 1974;

African Studies Handbook, 1971; World History Series: Africa, 1972).

State departments of education (Jones, 1970) and other agencies (Oswald, 1974) have contributed their efforts to assisting public schools to improve international studies programs. The African-American Institute (Teaching About Africa, 1972) and the African Studies Program at the University of Illinois (Schmidt, 1975) have made ongoing efforts to improve African studies through teacher inservice education.

Teacher Attitudes and Their Measurement

A crucial issue in assessing the role teachers play in the instruction of children is to what extent teacher attitudes influence the outcomes exhibited in children. In conjunction with that issue, is the problem of measuring teachers' attitudes and their relationship to other variables. Wiseman (1973) believed that the single most significant outcome of educational research in the last decade was the realization of the power of teacher attitudes and teacher expectations.

Much of the research into teacher attitudes has focused on their relationship to various educational issues and practices. In an experimental study, Homme (1968) reported a failure to improve teacher attitudes toward programmed instruction, apparently because of lack of communication between experimenters and teachers and lack of optimum classroom conditions. However, Macias (1969) found that new "Spanish for Communication" materials designed for programmed mastery of instructional objectives improved teacher attitude toward language instruction, as well as changed their teaching methodologies and student performance. A third study dealing with teacher attitudes toward some aspect of educational practice was conducted by Waimon, Bell, and Ramseyer (1971)

who hoped to show that teacher candidates trained in the microplanning technique would score higher on tests of teacher effectiveness but remain unchanged in attitude toward students and teaching. The study found that teaching teachers to control cognitive structure variables increased their students' reasoning ability but had no effect on recall not did it affect any measure of teacher attitude. This last finding was considered a positive one because the experimenters were attempting to avoid change to undesirable attitudes on the part of teacher candidates. A study by Maxin (1974) showed how negative teacher attitudes could block progress in educational practice. He found that teachers had little knowledge of, and negative attitudes toward, educational research. Consequently, they shied away from its findings.

Okey (1973) studied the effects of learning Bloom's mastery teaching strategy on teacher candidate's attitudes toward tests, grades, and diagnostic teaching. The experimental group showed significantly positive attitude gains in this study. In a one-shot experiment in which teacher attitudes toward the effectiveness of different math programs were supposedly manipulated by having teachers read biased statements about the programs, Brager (1970) found no significant difference in students related to teacher attitude. A more sophisticated longitudinal study by Beauchamp and Conran (1975) was set up to measure the effects of the operation of a curriculum engineering system. A causal model employing path analysis (see Blalock, 1964, 1971; Heise, 1975; Van de Geer, 1971) was being used to examine the relationships between leadership, curriculum engineering, teacher attitudes, teacher performance, and student performance. Frey (1973) in a survey study of 406 elementary, middle, and high school teachers attending a summer session at Northern

Illinois University found that teachers knew much about behavioral objectives but held rather neutral attitudes about their effectiveness in pupil performance. Bogatz (1970) found a positive relationship between teachers' attitudes toward the effectiveness of instructional materials and actual pupil achievement.

Research on teacher attitudes toward subject matter had been confined mostly to the subject of science. Oshima (1966), in studying the difference between lecture-demonstration and individual investigation as approaches to teaching science methods courses to elementary school teacher candidates, measured attitudes toward science as well as confidence toward teaching science, achievement in science, and student teaching behaviors in science. Only the confidence variable showed significant difference between experimental and control groups. Shrigley (1974) studied attitude toward science and its relationship to knowledge of science. He found a low positive correlation of .25 between measures of scientific knowledge and attitude toward science. Since the coefficient of determination was .06, he questioned the relationship between knowledge and attitude. However, Billeh and Zakhariades (1975), finding a .25 correlation between science attitudes scores and grades in science taken as a measure of learning, concluded that knowledge of science and general exposure to science had a positive influence on attitudes toward science. The previously mentioned Almgren and Gustafsson (1974) study looked at the relationship of teacher attitudes toward teaching about international questions and students' attitudes. They found a positive relationship.

An important set of research on teacher attitudes has focused on the relationship between teachers' attitudes toward their students and the

pupils' subsequent achievement. Aron (1975), Clark (1975), and Cecil (1971) all found a positive relationship between teacher attitude toward students and pupil achievement.

These studies have made use of one or several of the attitude measurement techniques developed and refined since the 1920's. Thurstone (1927, 1929, 1931, 1967) was the first to take attitude measurement out of the survey stage and make it more rigorous by introducing the equal-appearing interval technique. At the time that Seashore and Hefner (1933) were modifying Thurstone's techniques, Likert (1967, 1970) proposed the summated rating method for measuring attitudes. Subsequently, Guttman (1944, 1947), and Osgood (1967; Osgood & Suci, 1955; Osgood, Suci, & Tannenbaum, 1957; Snider & Osgood, 1969) devised alternative systems for attitude measurement. Edwards (1957), Oppenheim (1966), and Shaw and Wright (1967) have each made attempts to synthesize the previous work in attitude measurement and provide guidelines for developing attitude scales according to the different techniques available.

Two studies have attempted systematic comparisons of Likert and Thurstone techniques of scale construction and scoring. Providing a critical review to previous research, Seiler and Hough (1970) concluded that the Likert scoring method was superior to the Thurstone method with regard to the value of the reliability coefficient obtained for a given number of items. Using Likert construction and scoring techniques, one could usually develop a scale with a .90 reliability coefficient with only 20 to 25 items. It would take twice as many Thurstone constructed and scored items to obtain the same reliability (p. 171). Jaccard, Weber, and Lundmark (1975) used a multitrait-multimethod matrix (see Campbell & Fiske, 1959) to compare the test-retest reliabilities and

divergent and convergent validities of four methods of attitude measurement: Likert, Thurstone, Osgood, and Guilford's self-rating. They found little difference in the comparative reliabilities, the method variances, or in the divergent and convergent validities of each method. Whatever the merits and demerits of each method may be, these differences cancelled out when put to the empirical test. Thus any of the above techniques might be applied to assessing teacher attitudes toward social studies curricula, or specifically African content.

Summary of Research

The changing nature of the modern world has raised concern among educators that curricula and teaching practices need to become more internationalized. Some scattered efforts at curricular reform have been made. In addition, scattered attempts have been made to prepare teachers to use international content in their teaching. Yet little research has been done into the effects of teacher attitudes on subsequent student learning of either concepts or attitudes relating to international issues.

However, for fifty years educational psychologists have been developing and refining a number of techniques for measuring attitudes. These techniques have been used in recent years to study teacher attitudes toward students, various subject matters, and different educational practices. What is needed now is a means of measuring teacher attitudes toward teaching about foreign cultures and international problems. Making use of accepted techniques of attitude measurement, this study has undertaken to devise instrumentation that could validly measure these teacher attitudes.

CHAPTER THREE METHOD

In establishing the construct validity of the new scale to measure teachers' attitudes toward African content in the curriculum, three approaches to construct validation were used. First, correlations between scores on the Florida International Curriculum Assessment Scales and other measures of similar constructs were examined. A previously developed knowledge test of African content was refined for use as a criterion in this study. In addition another attitude scale measuring attitudes similar to, though not identical with, attitudes toward teaching about Africa in the classroom was also used. The total scale scores from these two instruments were correlated with the newly developed FICAS subscales to establish the first type of construct validity. Second, groups which should have differed in scores on the FICAS subscales were also tested and compared to see if expected differences had been detected. The mean scores from the pilot sample were compared to the two summer institute samples to see if the newly developed subscales could detect an expected difference in attitudes between the pilot and other two groups. Finally, the pretest scores of the institute samples were compared to the post-test scores to see if any subscales could measure a difference in attitude expected as a result of participation in the institutes.

This chapter includes the details of the development of the FICAS. A discussion of the procedures used to establish its reliability follows a description of its development. Finally, measures taken to confirm

the construct validity of the FICAS are delineated along with a discussion of the other instruments used in the validation process.

Attitude Scale Construction

Purpose

The purpose of this study was to develop a reliable instrument with sufficient validity to allow it to be used in attitude research and in curriculum and instruction evaluation. An instrument was desired to yield scores on teacher attitude toward African content which could be analyzed to learn more about the relationship of this attitude to other constructs and observable behavior. It was expected that the new instrument would serve a useful purpose in evaluating pre and inservice efforts to instill an international perspective in teachers with regard to their own teaching.

Scale Dimensions

In constructing an instrument to measure attitudes toward African content in the curriculum several steps were taken. The first concern was to clearly define the dimensions of the construct under consideration (Gardner, 1975). The identified construct had to be unidimensional so that all scale items could be summed to produce a meaningful total scale score (Gardner, 1975; Thurstone, 1967). Such a scale score would be uninterpretable if a single linear continuum did not underlie the attitude being measured. Attitudes are assumed to vary in quality and intensity along a continuum from positive through neutral to negative (Shaw & Wright, 1967, p. 7). If, in fact, some scale items measure dimensions

independent of the major underlying construct, the resulting attitude score will be meaningless with regard to the attitude that was intended to be measured.

While pains were taken to insure that the attitude to be measured, attitude toward the inclusion of African content in school curriculum, was not confounded with other attitudes such as attitude toward Afro-American studies or perhaps attitudes toward traditional versus inquiry social studies methodologies, care was also exercised to include all aspects of the underlying dimension (Oppenheim, 1966, p. 117). A teacher's attitude toward teaching about Africa in the curriculum might be made up of feelings about priorities in the curriculum, feelings about the school's role vis-a-vis cross-cultural education, feelings about Africa's relevance to the curriculum, or any number of other aspects. These various aspects had to be identified and measured if a valid scale were to result from this study. An analysis of responses to open-ended statements about African studies in the curriculum was used to determine the relevant underlying dimensions.

A sentence completion questionnaire with three items on it was used to elicit teachers' views on African content. The second item on the questionnaire was the most pertinent for formulating the underlying aspects of the construct which the researcher was attempting to measure. This item began "African content in the public school curriculum should. . . ." After completing this sentence, teachers were asked to respond to the second part of the item which said simply ". . . because" Thus in addition to open-ended judgments on African content, reasons for these judgments were also solicited. Also included in the questionnaire were two other items: The first of these was simply "Africa . . . ," and the second was "Global consciousness. . . ."

This questionnaire was administered to 100 pre and inservice teachers. The responses were categorized in an effort to determine the dimensions underlying attitude toward Africa in the curriculum (see Table 1). It appeared from analyzing these responses that the relationship of African content to cognitive objectives is the major underlying dimension of attitude toward African content. When combined with responses related to affective objectives, over 78 percent of the responses relate to curriculum objectives.

Table 1
Response Distribution for Open-Ended Questionnaire
on African Content in the Curriculum

Category	Percent of Responses
Cognitive Objectives	67.0
Affective Objectives	11.3
Relative Importance or Time Considerations	9.4
Intrinsic Interest	5.7
All Other Responses	6.6

Note. Number of subjects equalled 100, but the number of responses equalled 106 because of multiple responses.

Source of Items

The next step was to develop a pool of items which could be piloted in order to construct an adequate scale. These items had to differentiate between those teachers who hold positive and those who hold negative attitudes toward the object in question (Likert, 1967, p. 92). The items

needed to be statements in which respondents could recognize real viewpoints and feel strongly about them one way or the other (Oppenheim, 1966, p. 114). These items had to cover the range of aspects underlying the attitude and, in a traditional scale, the range of intensity from negative to positive.

For the attitude that this study attempted to measure, using standard Likert-type statements presented a potential problem of interpretation. Since relationship to curricular objectives seemed to be the major underlying dimension of attitude toward African content in the curriculum, most items in the Likert-type instrument would contain statements which related African content to objectives. Two examples would be the following: "The study of Africa is necessary to promote international understanding," or "The study of Africa needs to be included in the study of world geography." If an attitude is a predisposition to act in a certain way toward some object, then positive responses to these items might not be measuring a teacher's inclination to use African content. For it is possible that a teacher could agree that African content was important to achieve an objective but believe at the same time that the objective is not too important. Such a situation could produce a misleading item response.

To overcome this potential problem, the current study used statements of objectives as the items in the instrument. Each teacher was asked to rate the importance of the objective as well as rate the relevance of African content to achieving it. The objectives were selected to represent three content categories covering a broad range of social studies objectives. Some objectives are nationalistically oriented in that American content would be required to achieve the objective (see Appendix

A). Examples include these: "Students should know about the impact of technology on modern life in America," "Students should have a knowledge of the structure of American government," and "Students should support efforts to protect America's environment." Other objectives are international in orientation because they require content from outside the U.S. in order to develop them. Such objectives would be the following: "Students should acquire worldmindedness," "Students should comprehend the gulf between rich and poor countries," and "Students should understand different ways of life on different continents." Still a third group of objectives are those whose achievement does not dictate the national or international focus of content in order to accomplish them. This third group of objectives could be developed with either American or international content or both. Examples of this third type include "Students should understand the balance of nature," "Students should understand the exchange of goods and services," and "Students should appreciate artistic expression."

In selecting the objectives for inclusion in the instrument, the first step was to examine the responses to the open-ended questionnaire given to pre and inservice teachers and then to review social studies methods texts and school district objectives statements. The following sources were checked for examples of both cognitive and affective objectives: L.F. Anderson (1968); D.L. Brubaker (1973); L. Ehman, H. Mehlinger, and J. Patrick (1974); S.H. Engle (1965); J.R. Lee (1974); B.G. Massialas and C.B. Cox (1966); E.J. Murphy and H. Stein (1973); D.W. Oliver and J.P. Shaver (1966); E.O. Reischauer (1973); J.A. Scott (1972); and M.D. Waimon, D.D. Bell, and G.C. Ramsever (1971).

Based on these sources, a list of 54 cognitive objectives and 36 affective objectives was drawn up to be submitted to a panel of eight professors of social studies education and curriculum. This panel rated the objectives as to the type of content that would be required to accomplish the objective (see Appendix A). The cognitive objectives were written to include an equal number from each of six social studies disciplines: history, political science, anthropology, sociology, geography, and economics. The affective objectives were not so easily classified according to discipline.

The FICAS could have been analyzed not only as a total score, but according to several subscales as well. The subscale structure of the FICAS allows for 11 different subscales to be examined for construct validity. Not all scales are independent of each other, but there exist three sets of independent subscales (see Figure 1). The 48 objectives on the scale can be divided according to cognitive-affective criteria (Bloom & Krathwohl, 1956; Krathwohl, Bloom, & Masia, 1964). into two subscales with 28 and 20 items respectively. Alternatively the scale can be divided into subscales of nationalistic, international, and either/or objectives. Placement on these scales was made by a panel of eight professors who were asked to judge objectives on whether or not American content or international content was required to achieve the stated objective. The third possibility was that the objective could be developed with either type of content.

	Nationalistic NATTOT (13)	International INTTOT (13)	Either/or EORTOT (22)
Cognitive COGTOT (28)	Cognitive Nationalistic COGNAT (8)	Cognitive International COGINT (8)	Cognitive Either/or COCEOR (12)
Affective AFFTOT (20)	Affective Nationalistic AFFNAT (5)	Affective International AFFINT (5)	Affective Either/or AFFEOR (10)

Note. Numbers in parentheses are number of items on each subscale. Words in all capitals are abbreviations of subscales used in the text.

Figure 1

Subscale Structure of the Florida International Curriculum Assessment Scales

At least 75 percent agreement among professors was required for an objective to be further considered. Of these objectives submitted to the panel of professors, 43 of the 54 cognitive objectives and 23 of the 36 affective objectives met this criterion (see Appendix A). Further paring of objectives was done with an eye to maintaining an equal number of nationalistic and international objectives on each scale. Similar objectives were culled by picking the one which had the greatest percent of agreement. The final 28-objective cognitive scale consisted of 9 items which had 75 percent agreement, 13 with 87.5 percent, and 6 with 100 percent agreement. On the 20-objective affective scale the numbers were 7, 11, and 2 respectively.

Scoring

The Florida International Curriculum Scales were scored according to the summated rating process (see Edwards, 1957, pp. 149-170). Missing

data points were replaced with the rounded group mean for each item based on the pilot sample of 131. There were 80 missing data points supplied in this manner out of 6,288 such points. The group means based on the pilot sample were used when necessary for generating the scores required to test Hypotheses One, Two, and Three. However, for Hypotheses Four and Five, the group means substituted for the missing data points were based on the 222 subjects which comprised the pilot sample as well as the pre and posttest samples from the summer institutes. This base was chosen as the most conservative procedure in generating total scores to be entered into an analysis of variance. In the latter case 105 data points were supplied by substituting the group mean out of 10,656 total data points processed. After respondents rated each item on a scale from 0 to 5 along a continuum measuring the relevance of African content ranging from useless to essential, the total scale score was computed by summing the item scores. The subscale scores were generated in the same manner by summing the items on the relevant subscales (see Figure 2 and Appendix C). All nationalistic items can be identified by reading down the first column of cells in Figure 2. For international items read down the second column of cells. The complete either/or subscale comprises the third column of cells.

	Nationalistic	International	Either/or
Cognitive	1, 20, 23, 28, 30, 35, 39, 43	7, 11, 19, 27, 40, 42, 44, 48	3, 5, 6, 10, 12, 15, 21, 25, 26, 32, 33, 41
Affective	4, 18, 22, 46, 47	2, 13, 14, 16, 31	8, 9, 17, 24, 29, 34, 36, 37, 38, 45

Figure 2

Item Assignment to Subscales on the Florida International
Curriculum Assessment Scales

Alternative Scoring Methods Considered and Discarded

Another option for scoring also presented itself. As mentioned earlier, teachers could rate African content highly relevant for an objective which they considered to be relatively unimportant. For example affective objective number 27, which reads "Students should understand different ways of life on different continents," had an attitude scale rating which was well above the average for a FICAS item. However, its importance rating was only average. Consequently, although many teachers could see the relevance of African content to such an objective, they were not inclined to teach the objective because they perceived it as unimportant.

Therefore, in scoring the FICAS two special weighting options were tested to see if greater validity could be obtained. Since it was thought that the importance a teacher attached to an objective would be important information in computing attitude toward African content, teachers were asked to rate the importance of each objective which made up the FICAS. First, all objectives with a rating of 5 in importance were scored as marked on the FICAS and all other items were weighted 0. Second, a rating of either 4 or 5 was used to select the items to be scored, all other items being weighted 0. In both cases item means were used as the scale scores instead of summated ratings because of the different number of items receiving high ratings from different subjects. When these weighted scoring methods were used, the values of coefficient alpha remained virtually unchanged from those observed with conventional scoring procedures. When items with an importance rating of 5 were included an alpha of .94 was observed, .95 for items with importance ratings of 4 or 5.

Although these weighted scoring methods produced reliabilities comparable to the conventional summated rating technique, they did not produce improved validity coefficients as predicted. The first alternative scoring procedure produced an item mean that correlated .14 ($p > .05$) with the Worldmindedness Scale and $-.21$ ($p < .05$) with the Florida African Knowledge Scale. The second method resulted in an item mean correlating .16 ($p < .05$) with the W-Scale and $-.18$ ($p < .05$) with the FAKS. It appeared that using the scoring alternatives of calculating item means for only those objectives which received a high importance rating did not measurably increase their validity coefficients. Consequently, further analysis was limited to testing the validity of the subscales which were scored with the conventional Likert procedures (see Chapter Four).

Procedures for Establishing Reliability and Validity

Reliability

Coefficient alpha (Cronbach, 1967) was used as a measure of reliability in this study. The subscales of the Florida International Curriculum Assessment Scales were designed to be unidimensional. Consequently, coefficient alpha which is a measure of internal consistency of the items on a unidimensional scale was an appropriate device to use.

For the reliability study the instruments were administered in regular College of Education class sessions meeting at the University of Florida during spring quarter 1977. This was true for these courses:

ED 600, The School Curriculum (two sections); EDE 620, Social Studies Education -- Elementary School; EDE 670, Language Arts in the Elementary School (off-campus in Marion County, Florida); EDF 620 Socioeconomic Foundations of Education; EDF 666, Seminar on Research on Effective Teaching; EDF 450, Measurement and Evaluation in Education; and EDF 768, Evaluation of Educational Projects and Systems. The students in EDS 635, Supervision of Preservice Teachers (off-campus in Alachua County, Florida), were given instructions for taking the tests and then allowed to complete the scales at home and return them at the next class meeting. The elementary teachers participating in the study from Hillsborough County were given the instruments during a meeting of an inservice class in social studies methods in the spring of 1977. The Hillsborough County middle school teachers were administered the scales during a meeting of a county-wide social studies curriculum committee. The high school teachers in Hillsborough County were approached through their department chairpersons who each requested three of their department members to respond to the instruments on their own time.

The instrument battery used to determine the reliability and validity of FICAS contained 12 pages of material. The first page asked for demographic data related to teaching experience. The three questions asked concerned level, subject area, and years of K-12 teaching experience. The second page contained the instructions for completing the importance ratings and the FICAS items. This required a two-step process: First, for each of the 48 curricular objectives, the subjects were asked to rate their importance for the school curriculum on a scale from 0 to 5; second, for each objective the subjects were to rate the relevance of African content for achieving the objectives on a 0 to 5 scale. The

next three pages made up the Florida International Curriculum Assessment Scales. Pages 6 through 8 contained the Worldmindedness Scale (Sampson & Smith, 1957; Shaw & Wright, 1967) entitled "Social Attitudes Questionnaire." The last four pages consisted of the Florida African Knowledge Scale which is a 30-item revision of Project Africa's Africa South of the Sahara test (1968). Most respondents took between 30 and 45 minutes to complete the total battery.

Data used to estimate coefficient alpha were collected from 131 persons with K-12 teaching experience drawn from graduate courses at the University of Florida College of Education and from the ranks of practicing social studies teachers in the Hillsborough County, Florida, Public Schools. A total of 169 people responded to the instruments. Thirteen subjects were eliminated from the sample because they failed to complete one or more of the scales or because they were foreign nationals without American public school experience. An additional 25 respondents in the graduate courses were set aside because they did not have K-12 teaching experience. Consequently, the pilot sample consisted of 131 subjects all of whom were either practicing teachers or had had previous K-12 teaching experience.

Sixty-six subjects were enrolled in graduate courses at the University of Florida, including 19 teachers enrolled in an off-campus course in Marion County, Florida (pop. 69,030). The other 65 subjects were practicing teachers in Hillsborough County, Florida (pop. 490,265), which includes Tampa and surrounding area. The total pilot sample consisted of 39 people with only elementary experience, 20 with only middle school/junior high experience, and 25 with only high school experience. Eleven teachers had experience at both elementary and middle school, 18 had

both middle school and high school experience. Eighteen other subjects had experience at all levels. With regard to years of experience, 12 teachers were in their first year of teaching; 28 had 2 or 3 years experience; 23, 4 or 5 years; 34, 6 to 10; 18, 10 to 20 years; and 12, more than 20 years experience. The subject matter breakdown was weighted in favor of social studies teachers -- who were expected to comprise the majority of participants in the summer institutes. Thirty-five subjects only had experience as social studies teachers and an additional 16 had experience teaching social studies as well as some other subject. Twenty-eight taught the basic subjects (language arts, mathematics, science, social studies) in elementary schools. Seventeen had basic subject experience as well as experience in some other area. Nine subjects were humanities teachers in that they were only experienced in language arts, art, music, or foreign languages. Twenty-six teachers only had experience in other areas: math, science, media, physical education, or vocational education.

Validity

Correlates. To establish the construct validity of the Florida International Curriculum Assessment Scales, several hypotheses were generated to test predicted relationships involving the construct of interest, attitude toward the use of African content in the curriculum. If a predicted pattern of correlations could be empirically verified, then the construct validity of a test would receive confirmation. This study sought to verify positive correlations between favorableness toward African content and two related constructs, worldmindedness and knowledge of Africa. Neither of the criterion attributes was identical

with the construct under study. However, it was theorized that teachers high on worldmindedness and knowledge of Africa would also tend to be high in attitude toward the use of African content.

The sample, sometimes referred to as the pilot sample, used to test these correlational hypotheses was the same one described in the section on reliability. The methods of data collection were also those described above.

The first of the instruments used to establish the construct validity of the FICAS was the Florida African Knowledge Scale (FAKS), developed by this project. Examination of the test Africa South of the Sahara (1968), which is a 60-item test originally developed for high school students as a part of "Project Africa" (Beyer & Hicks, 1968), revealed a solid base upon which to build an up-to-date knowledge instrument. Beyer's instrument contained six subscales which were retained in an effort to broadly measure knowledge of Africa. These six subscales were (a) physical geography, (b) history before European penetration, (c) history of Europeans in Africa, (d) indigenous society, (e) economic development, and (f) current affairs. This original document was used by the University of Illinois Program in African Studies in a pre-post design to test knowledge gain at their inservice workshop for teachers in 1974 (Schmidt, 1974, p. 13). Beyer used a 15-member panel to sift through 120 multiple choice items and came up with 70 items to be item analyzed. Of the 70, 60 were chosen for the final instrument. Using an odd-even split-half technique, Beyer found a .60 reliability coefficient for his seventh grade sample and a .80 coefficient for the twelfth grade sample (Beyer & Hicks, 1968, p. 22). Although Beyer and Hicks (1968) did not specifically report the number of subjects involved in the

reliability study, they reported elsewhere in their presentation that 845 seventh graders and 794 twelfth graders were surveyed in their study (p. 5).

Three facts suggested that the Beyer and Hicks test needed to be modified for use with teachers in this study. The first was that the .60 reliability coefficient with the seventh grade sample was too low to be acceptable. Second, since the test was developed in 1968, events both in Africa and in the field of African scholarship have rendered several items outdated. Third, since this instrument would be used in conjunction with an attitude instrument to evaluate outreach workshops, a shorter test was desired.

Consequently, the original 60-item instrument was submitted to a panel of 13 Africanists associated with the Center for African Studies at the University of Florida to evaluate the content validity of the items. These scholars represented the following disciplines: English, geography, behavioral studies, curriculum and instruction, sociology, art history, French, anthropology, food and resource economics, history, linguistics, and comparative education. All professors were asked to circle the letter of the correct answer as they saw it from the perspective of their expertise on Africa and then to comment on questions which they thought were poorly worded, dealt with trivia, were outdated, or in any way needed adapting before being used with teachers. On the basis of the responses received from these 13 experts on Africa, 28 of the items in the original test were discarded. Criteria for the elimination of items included the following: Questions based on no longer accepted assumptions (i.e., the correctness of Western-style economic development as a model for Africa); questions calling for value

judgments; questions containing negative biases towards Africa; questions which were confusing, simplistic, or contained implausible distractors (incorrect alternatives); or questions which were dated and no longer valid. Under these criteria the subscales on economic development and current affairs were especially hard hit as 60 percent of the former and 71 percent of the latter were eliminated from the original test. Eleven other questions from the original 60 were slightly modified to bring them up to date or to change a single implausible distractor. The outline map of Africa used to answer the first six items in the original test was modified by adding the four major rivers of Africa -- Nile, Niger, Congo, and Zambezi -- to the continental outline. Eleven new items were written for the revised knowledge test, resulting in a 43-item instrument to be pilot tested.

The pilot test was administered to 140 undergraduates at the University of Florida. Eighty-four students enrolled in the College of Education took the test during fall quarter 1976. An additional 56 students took the test winter quarter 1977 during the first class meeting of two different introductory African studies courses. These 140 students were divided alternatively into two groups of 70 to allow an item analysis and a double crossvalidation to be performed. The biserial correlations between item scores and total test score were used as the indices of item discrimination (Lord & Novick, 1968, Chapter 15). The 35 items with the highest biserial correlations based on subsample one were cross validated on subsample two. At the same time the 35 best items revealed by an item analysis on subsample two were cross validated on subsample one. The 30 items which had the highest and most stable biserial correlations across the two samples were selected for the final

knowledge test. The only exception to this strict psychometric criterion was that one item pertaining to Zaire was dropped because of the large number of items already referring to Zaire and an item which had a lower, but acceptable, cross validation biserial correlation with the total score ($r = .31$) replaced it to keep the original subscale percentages that had been established by Beyer and Hicks (1968, p. 23). Based on a new sample of 131 subjects described above in the section on reliability, the biserial correlations for the final 30 items ranged from .18 to .76 (see Appendix B).

The surviving 30 items were given a final check for content validity and proper wording. Three items were altered at this point. The resulting instrument consists of 11 items taken unaltered (except for changes in the map used to answer some physical geography questions) from the original 60-item test. Ten other items represent slight modifications of original questions and nine items are completely new ones written for the revised test. Consequently, the revised test consists of approximately one-third completely new items, one-third unchanged items, and one-third modified items (see Appendix D). To overcome any effects of a response set, the correct answers were apportioned as evenly as possible among the four alternatives. The total scale score consisted of the sum of correct answers.

The second instrument used in the validation process was an already constructed Likert-type scale known as the Worldmindedness Scale (W-Scale) (see Appendix E). This scale was developed as part of a study to learn what types of intercultural experiences have a special impact on attitudes, the relationship between personality differences and world-mindedness, and what relationship exists between attitude prior to an

intercultural experience and reaction to that experience (Smith, 1955). The Worldmindedness Scale has eight subscales that measure attitudes on the following dimensions: religion, immigration, government, economics, patriotism, race, education, and war (Shaw & Wright, 1967, p. 203). In validating the scale Smith (1955, p. 470) reported these correlations between the Worldmindedness Scale and the following constructs: Ethnocentrism $-.71$, Facism $-.46$, and Political and Economic Conservatism $-.53$. Smith found that unstructured, heterogeneous intercultural experiences had little impact on altering worldmindedness. The tendency was for people on both ends of the Worldmindedness Scale to have their attitudes strengthened by intercultural experiences. After comparing Worldmindedness scores to results on factors making up Guilford and Guilford's (1934, 1936) introversion-extroversion scale, Smith (1955) concluded that the "highly worldminded person is less masculine and ascendant, more impulsive and emotionally dependent, and more inclined toward introspection and internalization of impulses than the very nationalistic individual" (p. 476). Sampson and Smith (1957) define worldmindedness as "a frame of reference, or value orientation, favoring a world-view of the problems of humanity, with mankind, rather than the nationals of a particular country, as the primary reference group" (p. 105). They emphasize that worldmindedness as they conceive of it designates a value orientation, or frame of reference, apart from knowledge about, or interest in, international relations. Sampson and Smith report a corrected split-half reliability of $.93$ and a test-retest reliability also equal to $.93$. Allman (1961) used the Worldmindedness scale to compare differences in the student bodies of two schools. Garrison (1961) used the scale to compare differences based on religion, region

of the country lived in, family background, sex, and year in college. Based on his findings at the University of Georgia, a male freshman Baptist from an agricultural background in the Southeast would be the most likely candidate to be low on worldmindedness. Newman and Ware (1976) found a low positive relationship ($r = .35$) between worldmindedness and aesthetic perception.

The Worldmindedness Scale was chosen for use in this study for several reasons. Not only does it have solid credentials for reliability and validity but it also has a timely quality not shared with other scales aimed at measuring internationalism. Many scales developed in the 1940's and 1950's contain items which are no longer valid because they refer to personalities or specific situations which would not be familiar to subjects in the 1970's. The Worldmindedness Scale, however, contains items which refer to more generic situations which an audience in 1977 could relate to as easily as one in 1957 when the scale was developed. In addition, the Sampson and Smith (1957) scale attempts to measure a broad range of dimensions related to worldmindedness. Many other scales are limited to a narrower range of attitude objects -- for example, war, communism, patriotism, or trade policy.

In scoring the Worldmindedness Scale, the procedures outlined in Shaw and Wright (1967, pp. 203-204) were followed. However, since some item responses were missing, a preliminary step was taken. For each item a group mean was generated based on the pilot sample of 131 teachers. In order to compute total and subscale scores, these item means were rounded to the nearest integer and substituted for the blanks on the score cards. The Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975, pp. 181-193) subprogram

"Condescriptive" was used to compute the item means. The missing data problem was a very minor one in this case as only 28 data points were missing out of a total of 4,192. Total scores were generated for each subject by adding the value of the item responses which ranged from 6 for strong agreement to 0 for strong disagreement.

Discriminant validation. The second step in establishing the construct validity was to state a hypothesis about the relationship between scores on the FICAS subscales of two groups whose scores should be different. It was assumed that teachers who elected to attend summer institutes on African studies would have more positive attitudes toward the use of African content than would a cross section of teachers. Therefore, it was predicted that the FICAS subscale scores of the institute participants would be significantly higher than those of a cross section (or pilot) group.

After preliminary testing to determine the correlations between the FICAS subscales, the Worldmindedness Scale, and the FAKS, the instruments were administered to 49 teachers attending summer institutes on African studies at either the University of Illinois, Champaign, or the University of South Florida, Tampa. Twenty-eight people took the three-test battery on June 20, 1977, in Tampa. Twenty-one took the FICAS and FAKS in Champaign on June 9. These pretests, given at the beginning of the respective summer institutes, provided data on the Africa attitude scale to be used in the group differences construct validation procedure.

Both institutes were similar in their goals. Each institute sought to increase teachers' substantive knowledge of Africa and Africans, to introduce teachers to new sources of information about Africa, and to assist teachers in developing curriculum plans and teaching skills

appropriate to integrating the study of Africa into the public school curriculum. The Champaign institute sponsored by the University of Illinois African Studies Program under a grant from the National Endowment for the Humanities lasted four weeks from June 6 to July 1, 1977. The Tampa institute was sponsored jointly by the Departments of International Studies and Afro-American Studies and the Center for Economic Education at the University of South Florida and the Center for African Studies at the University of Florida. It lasted for two weeks from June 20 to July 1, 1977. Each workshop provided participants with a variety of resources on Africa: Among these were films, lecture/discussions, meetings with Africans, slide-lectures, and readings. In addition, the participants in each workshop were to produce curricular materials which were to be implemented in the school year 1977-78. At the conclusion of each workshop the FICAS and FAKS instruments were re-administered to allow the measuring of change on the two scales as a result of workshop participation.

In testing the hypothesis on group differences the FICAS subscale scores of the pilot sample were compared to those of the participants in the two summer institutes on African studies. Attending the institute in Tampa were 28 teachers (26 from Florida, one from Louisiana, and one from Georgia). Twenty-two were white and six were black. Nearly, half the teachers, 12 of them, has a combined middle school-high school background. Five more were exclusively high school teachers and four were exclusively middle school/junior high teachers. Only one teacher had a combined middle school-elementary background. Six other teachers had taught at all levels. More than twice as many teachers (10) had taught from 6 to 10 years as had taught any other length of time. One

was in his first year of teaching; 5 had taught 2 or 3 years; 5, 4 or 5 years; 3, 10 to 20 years; and 2, 20 years or more. As had been predicted the majority of institute participants were social studies teachers; 17 exclusively so and seven more taught social studies and some other subject. Two teachers were art teachers in the humanities category and only one had experience outside of social studies or humanities.

The sample attending the Champaign workshop consisted of 23 Missouri teachers. Of these, data exist on only 21. As opposed to the Tampa group, the Missouri group was predominately black, 13 to eight. This group also contained a larger percentage of elementary school teachers: Four were exclusively so and one had a middle school-elementary background. Two were exclusively junior high/middle school teachers and six were exclusively so for high school. Five had a combined middle school-high school background. The three others had taught at all levels. The Missouri teachers also tended to be more experienced than their southern counterparts. Nine of the 21 had taught from 10 to 20 years; 4, 2 or 3 years; 3, 4 or 5 years; 4, 6 to 10 years; and 1, more than 20 years. The Missouri group were for the most part also social studies teachers: 12 fit this description, five of whom had had experience in another area as well. Two had taught only basic elementary subjects. Three had taught elementary basic subjects plus something else. Three were humanities teachers and the last participant had experience in an area outside of social studies or humanities.

Change over occasions. Yet a third method to establish construct validity is to experimentally manipulate conditions in such a way that a change in the construct under study would occur, then measure that change. In this study the "experimental manipulations" were summer

institutes designed to increase teachers' knowledge and understanding of Africa as well as to assist them in incorporating African content into their own teaching. If attitude reflects a predisposition to act toward an object in a positive or negative manner, then the institute experience should improve the attitude by increasing teachers' desires to include African content in their teaching. If the FICAS subscales could measure the predicted significant rise in attitude pre to post as a result of attending the summer institutes, then another confirmation of construct validity would have been found. To this end the FICAS was readministered to the institute participants at the conclusion of the workshops so that posttest scores could be compared to pretest scores in order to analyze the ability to measure change.

CHAPTER FOUR RESULTS

The Florida International Curriculum Assessment Scales (FICAS) were validated using two other instruments and two separate samples of subjects tested on three different occasions. Statistical estimates of the reliabilities of these instruments and their subscales are presented in this chapter followed by a discussion of the sample distributions. Finally, results of tests of the experimental hypotheses designed to establish the construct validity of the FICAS are reported.

Reliabilities

In this study Cronbach's (1967) alpha, a measure of internal consistency, was used to estimate reliability. According to Cronbach, "alpha is . . . an estimate of the correlation expected between two tests drawn at random from a pool of items like the items in this test" (p. 141). Alpha is the average of all the possible split-half coefficients for a given test (p. 135). The formula used to estimate alpha in this study is a generalization of the Kuder-Richardson Formula 20 (Veldman, 1967, p. 173).

The internal consistency coefficients for the FAKS and FICAS are displayed in Table 2. For FAKS, only the total scale score had an alpha of greater than .70 based on the pilot sample of 131 subjects. Coefficient alpha was .83 for this group. This specific reliability (Lord &

Table 2

Reliabilities and Standard Errors for the Florida International Curriculum Assessment Scales and the Florida African Knowledge Scale based on the Pilot Sample (N = 131)

Scale		No. of Items	Coefficient Alpha	Standard Errors
FICAS				
Cognitive Nationalistic	COGNAT	8	.89	.81
Cognitive International	COGINT	8	.80	.58
Cognitive Either/or	COGEOR	12	.88	.96
Affective Nationalistic	AFFNAT	5	.80	.59
Affective International	AFFINT	5	.78	.42
Affective Either/or	AFFEOR	10	.86	.83
Cognitive Total	COGTOT	28	.92	1.97
Affective Total	AFFTOT	20	.90	1.58
Nationalistic Total	NATTOT	13	.92	1.35
International Total	INTTOT	13	.87	.93
Either/or Total	EORTOT	22	.93	1.75
Total Scale	AFRITOT	48	.95	3.46
FAKS				
Physical Geography	PHYSGEO	8	.61	.17
History before European Penetration	PREURHST	3	.28	.08
History of Europeans in Africa	EUROHIST	3	.35	.09
Indigenous Society	INDSOC	4	.48	.10
Economic Development	ECONDEVL	5	.52	.12
Current Affairs	CURAFPA	7	.67	.16
Total Scale	KNOWTOT	30	.83	.51

Novick, 1968, Chapter 9) remained high when the test was administered to the 49 subjects attending the summer institutes. Their pretests yielded an alpha of .77 and their posttests, .78. The FICAS has high reliability as estimated by the alpha coefficients. The coefficient alpha values of the 11 subscales ranged from .78 to .93 (see Table 2). The internal consistency estimates of the NATTOT, INTTOT, and EORTOT subscales were .92, .87, and .93 respectively. Slightly higher coefficients were observed as a result of administering these scales to the institute samples, ranging from .91 to .94 on the pretest and from .92 to .94 on the posttest.

An alpha of .85 was observed for the total Worldmindedness Scale based on the pilot sample. For the 28 participants in the Tampa Institute the coefficient of .83 was computed. As with the FAKS, the W-Scale subscale reliabilities were too low for further analyses. Since the reliabilities of the subscales were all below .75 (see Davis, 1964, p. 24; Tinkelman, 1971, p. 71; Fox, 1969, p. 362), only the total W-Scale and the total FAKS scores were used in attempts to validate the FICAS.

The results of this reliability study revealed that each subscale on the FICAS was reliable enough to be subjected to validity checks. However, because of lack of independence between some of the 11 subscales, some scales being composites of others, and high multicollinearity¹ among some scales which were theoretically independent, only three subscales, NATTOT, INTTOT, and EORTOT, were selected for the investigation of construct validity.

¹Multicollinearity refers to high correlations among independent variables entered into multiple regression (see Blalock, 1964; Gordon, 1968; Kerlinger & Pedhazur, 1973).

Sample Distributions

Because the hypotheses set forth in this study called for the use of significance tests used with the calculation of both Pearson r 's and analyses of variance, the distributions to be entered into each analysis were checked for normality and homogeneity. Although much literature claims that the Pearson r (Carrol, 1961; Havlicek & Peterson, 1977) and analysis of variance F tests (Kirk, 1968; Linquist, 1953; Pearson, 1931) are robust with respect to violations of the assumptions of normality of distributions and homogeneity of variance, except when sample size also varies greatly in conjunction with discrepancies in variance (Boneau, 1971), some distributions in this study appeared to represent extreme violations of these assumptions. Therefore, all scores on the FICAS as well as the W-Scale and FAKS total scores were normalized before proceeding with the parametric statistical tests of hypotheses.

Tests of Construct Validity

In the first phase of construct validation the three selected FICAS subscales were correlated with measures of attitude and knowledge which should have had some relationship to attitude toward including African content in the curriculum. The tests of Hypotheses Two and Three constitute this phase of validation. In the second phase of construct validation the differential validity was investigated to determine if the scales could be used to distinguish between groups who should have differed in attitude toward Africa in the curriculum (see Hypothesis Four). Finally, the FICAS subscales were tested to see if they could be used to detect a change in attitude as a result of attending summer

institutes on African studies aimed at increasing teacher competency in using African content in classroom teaching (see Hypothesis Five).

Hypothesis One

There will be no significant differences ($p < .25$) among the mean scores of subjects in the pilot sample assigned to take three different forms of the Florida International Curriculum Assessment Scales.

Because the possibility existed that the rating of the relevance of African content might be affected by the context within which the rating occurred, three forms of the FICAS were tested. On Form A respondents were asked to rate the relevance of studying European peoples and places in addition to rating the relevance of studying African peoples and places. Form B included Latin America along with Africa. On Form C respondents were asked to rate the relevance of African content only. Thirty-three subjects were assigned at random to one of the three test conditions. These subjects were the first 33 to respond to the instrument from the pilot sample described in Chapter Three.

Because the researcher expected the null hypothesis -- $H_0: \bar{X}_1 = \bar{X}_2 = \bar{X}_3$ -- to be confirmed, a liberal alpha level of .25 was chosen increasing the chances of a Type I error, and thus reducing the chances of a Type II error. The observed difference in means was tested against the expectation that it would occur by chance at least 25 times in 100 before the researcher would accept the null hypothesis. A oneway analysis of variance supported the null hypothesis. The observed F ratio, .71, indicated that the difference in means would occur 50 times in 100 by chance alone ($p = .50$).

Table 3
Raw Means and Standard Deviations
for Hypothesis One (N = 33)

Treatment	Mean	Standard Deviation
Form A	145.45	33.16
Form B	144.00	35.58
Form C	128.72	38.50

Hypothesis Two

There will be a significant positive correlation ($p < .05$) between scores on the Florida International Curriculum Assessment Scales and scores on the Worldmindedness Scale.

Hypothesis Two was tested using the responses of the pilot group of 131 experienced K-12 teachers. This group consisted of a cross-section of teachers representing all grade levels and subject areas. Because multicollinearity can cause problems of interpretation in multiple regression analysis,² the six independent subscales making up the total FICAS were reduced to three composites. Because there were three subscales of interest, multiple regression was used to provide an overall significance test of the relationship between the three FICAS subscales and the criterion of worldmindedness. NATTOT, INTTOT, and EORTOT had a multiple

²For a discussion of the problems of multicollinearity, see Blalock, 1964; Darlington, 1968; Gordon, 1968; Johnson, 1972; Nie et al., 1975. The researcher opted to create composites rather than eliminate some of the highly correlated subscales. COGEOR and AFFEOR ($r_{xy} = .84$) were combined to form EORTOT; COGNAT and AFFNAT ($r_{xy} = .83$) were combined to form NATTOT; and COGINT and AFFINT ($r_{xy} = .72$) were combined to form INTTOT.

correlation, R , with the total Worldmindedness Scale of .28 (with $F_{3,127} = 3.47, p < .05$). Since the overall F ratio was significant, the individual Pearson-product moment correlations between the FICAS subscales and the W-Scale total were examined to determine which ones differed significantly from zero in the expected direction. As hypothesized, both INTTOT and EORTOT had significant positive correlations with worldmindedness. Their correlations were .26 and .21 ($p < .05$) respectively. However, the correlation between NATTOT and the W-Scale total was not significantly greater than zero. Consequently, for Hypothesis Two there is some evidence of construct validity for INTTOT and EORTOT but not for NATTOT.

Hypothesis Three

There will be a significant positive correlation ($p < .05$) between scores on the Florida International Curriculum Assessment Scales and scores on the Florida African Knowledge Scale.

Hypothesis Three was tested using the same pilot sample of 131 teachers that was used to test Hypothesis Two. An R was calculated between NATTOT, INTTOT, and EORTOT on the one hand and the FAKS total scale score on the other. The observed value was $R = .23$ ($F_{3,127} = 2.37$, not significant). No significant relationship was found between the FICAS subscales and the test of African knowledge.

Hypothesis Four

Subjects who elect to participate in a curriculum workshop on Africa will have a significantly higher mean score ($p < .05$) on the Florida

Table 4

Raw Means and Standard Deviations of all Samples and Variables Entered into the Analyses of Hypotheses Two through Five

Group		Variables				
		NATTOT	INTTOT	EORTOT	WORLDTOT	KNOWTOT
Hypotheses Two and Three						
Pilot ^a (<u>n</u> = 131)	$\bar{X}$	28.14	43.79	64.34	92.91	13.94
	S_x	15.43	10.59	20.05	22.54	5.83
Hypothesis Four						
Pilot ^b (<u>n</u> = 131)	$\bar{X}$	28.18	43.83	64.43		
	S_x	15.42	10.59	20.06		
Tampa Pre ^b (<u>n</u> = 28)	$\bar{X}$	35.82	51.00	76.93		
	S_x	16.11	11.54	21.78		
Illinois Pre ^b (<u>n</u> = 21)	$\bar{X}$	39.52	55.24	83.00		
	S_x	13.21	8.10	15.76		
Hypothesis Five						
Tampa Pre ^b (<u>n</u> = 22)	$\bar{X}$	36.36	51.05	75.73		
	S_x	16.61	12.60	23.69		
Tampa Post ^b (<u>n</u> = 22)	$\bar{X}$	37.68	53.91	83.50		
	S_x	15.49	11.06	16.66		
Illinois Pre ^b (<u>n</u> = 20)	$\bar{X}$	39.75	55.05	82.90		
	S_x	13.51	8.26	16.16		
Illinois Post ^b (<u>n</u> = 20)	$\bar{X}$	38.65	55.35	84.65		
	S_x	16.30	6.07	12.13		

^aMissing values were supplied based on pilot group means (n = 131).

^bMissing values were supplied based on pilot and institute groups grand mean (n = 222).

International Curriculum Assessment Scales than a comparison group of a cross section of teachers.

The next step in establishing the construct validity of the FICAS was to demonstrate that a significant difference existed between the mean scores of two or more groups who theoretically should have differed on the scale. The two groups selected in this study were (a) the pilot group and (b) the combined institute groups. The pilot group was a cross section of teachers who happened to be available for testing. They were assembled to take coursework which in no way was related to international education or cross-cultural studies. The Hillsborough County subsample was composed of social studies teachers who were selected because their availability was unrelated to international education issues. On the other hand, the institute samples were composed of teachers who were self-selected to participate in summer institutes on African studies. They could be presumed to have a more positive attitude toward teaching about Africa than the cross section of teachers in the pilot group. Therefore, if a significant difference in mean scores between these two groups could be detected by the FICAS subscales, then there would be some evidence for the validity of these attitude measures. Because the two institute samples came from different areas of the country, they were treated as separate groups in the analysis. A discriminant analysis was performed with the three relevant FICAS subscales being used to discriminate between the pilot group and the two institute groups. A post hoc orthogonal planned comparison (Kirk, 1968, pp. 69-78) was used to test whether the means of the institute groups differed from each other and whether their combined means differed from the pilot group mean. With three groups, only two ($k - 1$) orthogonal planned comparisons were

possible (Kirk, 1968, p. 72). However, with these two comparisons the researcher was able to obtain all the information needed to test Hypothesis Four. The comparisons used can be symbolized in this way (Kirk, 1968, pp. 69-70):

$$\hat{\psi}_1 = \bar{X}_2 - \bar{X}_3$$

$$\hat{\psi}_2 = \bar{X}_1 - \frac{\bar{X}_2 + \bar{X}_3}{2}$$

The first of the two comparisons tested whether any significant differences existed between the institute groups on the relevant FICAS subscales. The second comparison tested whether the pilot group mean was significantly different from the average institute group mean.

When NATTOT, INTTOT, and EORTOT were entered into a direct discriminant analysis one significant discriminant function was produced. The standardized discriminant function coefficients for this function were .76 for INTTOT, .28 for NATTOT, and .09 for EORTOT.

After determining that these three subscales do discriminate between the three groups in the analysis, post hoc analysis of variance employing planned comparisons was used with each variable separately to test first if there was a significant difference between the means of the institute groups and second if there was a significant difference between the mean of the pilot group and the combined institute groups. The overall F ratio for each variable was significant at below the .05 criterion alpha level. In addition, on no variable were the means of the institute groups found to be significantly different. However, on each variable the mean of the pilot group was found to be significantly lower than the average of the two institute groups means. Hypothesis Four confirmed

that INTIOT, NATIOT, and EORIOT each measured the expected differences between the pilot group and the institute groups. Yet the two institute groups, each of which consisted of educators self-selected to participate in an African studies program, did not differ from each other.

Hypothesis Five

The mean posttest score of a group of teachers enrolled in an African studies center summer institute will be significantly ($p < .05$) higher than their mean score on a pretest of the Florida International Curriculum Assessment Scales.

Hypothesis Five was designed to see if the new attitude scales could detect attitude change as a result of summer institute participation. A multivariate analysis of variance repeated measures design controlling for site was developed to test if a change in attitude could be measured by the instrument. This analysis was followed by post hoc split-plot analysis of variance with unequal n (Kirk, 1968, pp. 276-279).

When all three variables were entered into a multivariate analysis of variance an F approximation of the Pillai-Bartlett trace statistic was not significant at the .05 alpha level (see Olson, 1976). Consequently, it must be concluded that the three subscales did not distinguish between pre and posttest scores of institute participants. Therefore, Hypothesis Five was not supported.

CHAPTER FIVE CONCLUSIONS AND RECOMMENDATIONS

Introduction

Two subscales of the Florida International Curriculum Assessment Scales have been shown to possess sufficient reliability and validity to be employed in further research and evaluation studies. Both INTTOT and EORTOT demonstrated the predicted relationship to worldmindedness and distinguished successfully between the pilot and institute groups. NATTOT has served a useful purpose in this validation study but appears to be of no further use in measuring teacher's attitudes toward using international content, African or otherwise. In this chapter the psychometric quality of the FICAS is discussed. Suggestions for further research and applications are also presented.

Reliability Comparisons

Before focusing on the FICAS, the reliability data observed for the Florida African Knowledge Scale and the Worldmindedness Scale will be compared to that reported elsewhere in the literature. For the pilot sample of 131 subjects an alpha of .83 was observed for the FAKS. The 49 subjects attending the summer institutes yielded an alpha of .77 for the pretest and .78 for the posttest. These figures compare favorably with the reliabilities reported by Beyer and Hicks (1968, p. 22). They used an odd-even split-half technique to compute a coefficient of .60 for

their seventh grade sample and .80 for their twelfth grade sample. However, reliability is a function of test length and the Beyer and Hicks instrument was twice as long as the one refined in the current study. Later Beyer and Hicks (1970) used their own 48-item revision of the original instrument in a study which produced Kuder-Richardson reliabilities of .73 for the pretest and .88 for the posttest.

As a by-product of validating the FICAS, the 30-item FAKS has been produced. Its reliabilities are comparable to, if not superior to, longer versions of African knowledge tests produced by earlier studies. The content validity of the FAKS was assured by submitting the items potentially to be included in the instrument to a panel of 13 Africanists associated with the Center for African Studies at the University of Florida. Items which were dated, poorly worded, biased, or otherwise vulnerable were deleted from the item analysis and cross validation which produced the final 30-item scale.

For the Worldmindedness Scale, the reliability coefficients observed in this study were slightly lower than those reported by Sampson and Smith (1957). They reported both split-half and test-retest reliabilities to be .93. For the pilot sample in this study an alpha of .85 was observed. For the 28 participants in the Tampa Institute the coefficient of .83 was computed. The eight four-item subscales on the W-Scale had relatively low reliabilities among the pilot sample ranging from a .33 for the "Education" subscale to .62 for the "Patriotism" subscale.

Discussions of FICAS Validity

INTTOT

Among the 11 subscales of FICAS with potential for use in measuring teacher attitudes toward including African content in the curriculum, only INTTOT and EORTOT emerge as reliable, valid, and independent measures. INTTOT consists of 13 curricular objectives requiring international content to achieve (i.e., "Students should develop a sense of belonging to a world community" and "Students should understand different ways of life on different continents"). Teacher's INTTOT scores correlated .26 with their Worldmindedness total scale scores. This correlation was not only statistically significant but of an acceptable magnitude in spite of its modest size. The W-Scale was designed to measure nationalistic-internationalistic attitudes. Though it was theorized that teachers who were positively disposed to using international content (specifically African content) in their teaching would be higher in worldmindedness than those not so disposed, a high correlation between INTTOT and the W-Scale would not be expected because the two scales were intended to measure different constructs. A general worldmindedness is distinct from an inclination to use international content in one's teaching.

Although no relationship between INTTOT scores and FAKS total scale scores was observed for the pilot group, there is precedence for such a finding. Shrigley (1974) found a low correlation between knowledge of science and attitude toward science among preservice teachers. He questioned the existence of a positive relationship between the two constructs. Perhaps the current researcher was expecting too much to expect a positive relationship to exist between knowledge of Africa and

attitude toward African content in the curriculum. Another possibility also exists. There may be a nonlinear relationship between knowledge of Africa and attitude toward African content. This possibility will be taken up later when further research is discussed.

Of the tested subscales, INTTOT had the highest standardized discriminant function coefficient on the function discriminating between a cross section of teachers and a group which was self-selected to attend African studies summer institutes. Theoretically teachers who would choose to attend a summer institute in African studies should be more inclined to use African content to achieve international objectives than a more general population of teachers. INTTOT clearly measures this expected difference.

That INTTOT failed to measure a pre-post difference in attitude among summer institute participants might be explained in several ways. It is quite possible that no change occurred in the attitude measured by this scale. Strength is added to this explanation by the previous finding that institute teachers are relatively higher in their INTTOT scores compared to the pilot sample than they are on the other two scales being tested. Their initial high scores may have left little room for additional change. In addition, the phenomenon of regression toward the mean could have played a major role in INTTOT's not measuring a change in attitude. It is also possible that INTTOT failed to detect a change in attitude that did occur among the institute teachers. However, INTTOT's power in detecting a difference between institute teachers and a cross section of teachers makes the explanation of no real change more plausible than that of an undetected real change.

EORTOT

The EORTOT subscale consists of 22 objectives which can be developed with either nationalistic or international content, or both (i.e., "Students should understand the balance of nature," "Students should know about the role of government," or "Students should accept change as a natural feature of the human condition"). Such objectives are not specifically international in scope, as are INTTOT's, but one would suspect that a worldminded teacher would be more inclined to use international content to develop either/or objectives than would a teacher with a more ethnocentric viewpoint. Consequently, one would expect to find EORTOT scores to be positively related to those on the W-Scale but not quite as strongly as INTTOT's scores. Such was in fact the case as the correlation between EORTOT and the W-Scale equalled .21 ($p < .05$). Although no significant relationship was found between EORTOT and the FAKS total scores, further research may show this finding to result from a nonlinear relationship existing between the two constructs.

EORTOT also distinguished between the pilot cross section sample and the institute sample. However, because of its high correlation with INTTOT ($r = .72$), it adds little information when INTTOT is also entered into a discriminant analysis. Consequently, its discriminant function coefficient is rather low when compared to INTTOT. Nonetheless, when used separately in its own right, EORTOT is an effective discriminator between pilot and institute groups.

The EORTOT scale was expected to measure the attitude variable most amenable to change as a result of attending summer institutes. As teachers learned more about Africa and developed curricular applications for African content, it was expected that they would see more and more

uses for African content among the either/or objectives. Because of a nonsignificant multivariate F ratio, the researcher did not examine the univariate F ratios for NATTOT, INTTOT, and EORTOT for the purposes of drawing statistical conclusions. However, it should be noted that in spite of the multivariate F's being nonsignificant, EORTOT's univariate F was significant ($p < .05$). Such a result, which can occur when several weak dependent variables are included in a multivariate analysis (see Bock, 1975, p. 155), suggests that the issue of EORTOT's ability to detect pre-post differences as a result of summer institute attendance is still unresolved. Though this study has not been able to establish the ability of EORTOT to detect a pre-post difference, neither has it laid to rest the possibility of EORTOT's ability to do so.

NATTOT

NATTOT has served a useful purpose in the validation process by being distinct from INTTOT and EORTOT. However, it does not appear to be a valid measure of teacher inclination to use international content. This result was expected. NATTOT consisted of 13 curricular objectives which required American content to achieve (i.e., "Students should be proud of our national accomplishments" and "Students should have a knowledge of social change in America"). Although some individuals who like to teach from a comparative perspective might find international content relevant to achieving nationalistic objectives, it was not expected that a cross section of American school teachers, or even the institute participants, would perceive African content to be relevant for teaching to nationalistic objectives.

NATTOT scores proved to have no significant relationship to W-Scale scores. A correlation of .04 was observed. Neither did NATTOT scores show the predicted relationship to FAKS scores. A -0.21 ($p < .05$) was observed where a positive relationship was hypothesized. It appears that as teachers knew more about Africa they were less inclined to use this knowledge to achieve nationalistic objectives. These findings further reinforce the conclusion that NATTOT is indeed measuring a trait distinct from that measured by INTTOT and EORTOT.

While it is true that NATTOT was useful in distinguishing between pilot and institute groups, its complete resistance to change as a result of institute treatment has added weight to the argument that it is distinct from INTTOT and EORTOT and useless as a measure of teacher attitude toward the use of African content. Among the total number of institute participants there was virtually no change in NATTOT mean scores pre-post. In fact, among the Illinois institute subsample there was a nonsignificant decline in group mean. This pattern of findings leads to the conclusion that NATTOT is not a useful subscale to measure teacher attitudes toward including African content in the curriculum.

However, NATTOT has played a useful role in the validation process precisely because it has shown up as distinct from INTTOT and EORTOT. One precaution that most Likert-type attitude scales take to correct for response set is to word one half of the items negatively and one half positively. The negative items are then reflected in scoring. However, since FICAS items consist of curricular objectives it was not possible to word one half of them negatively. Consequently, it was reassuring to find that the nationalistic items scattered throughout the FICAS were responded to differently by the subjects. Both subscales, NATTOT and

INTTOT, had a potential range of zero to 65. Among the pilot group the raw mean for NATTOT was 28.1 while the raw mean for INTTOT was 43.8. This difference was significant at the .001 alpha level. This finding lends support to the argument that FICAS and its subscales were measuring much more than response set.

Multiple Aspects of Unidimensional Scales

The high multicollinearity found between several sets of FICAS subscales has confirmed the underlying structure of attitude toward African content in the curriculum. In analyzing the open-ended questionnaires during the early stages of the test development, the researcher determined that the two major underlying dimensions of the attitude under consideration were the relationship of African content to cognitive objectives on the one hand and to affective objectives on the other (see Table 1). Consequently, both cognitive and affective objectives were included on the FICAS under each of the three categories: nationalistic, international, and either/or. The intercorrelations among the various cognitive and affective subscales indicates that they belong together on their respective scales. Table 5 displays these cognitive-affective intercorrelations which show that on the two subscales of best validity, INTTOT and EORTOT, the cognitive-affective components had .72 and .84 correlations respectively.

Table 5

Intercorrelations of Cognitive and
Affective Subscales on FICAS

Cognitive Subscales	Affective Subscales			
	AFFNAT	AFFINT	AFFEOR	AFFTOT
COGNAT	0.83			
COGINT		0.72		
COGEOR			0.84	
COGTOT				0.88

Adequacy of INTTOT and EORTOT as Attitude Scales

INTTOT and EORTOT have been shown to possess high reliability and various degrees of validity. But how do they measure up when checked against theoretical criteria for evaluating good attitude instruments? Gardner (1975) has critiqued recent research in attitude measurement, particularly in the area of attitudes toward science. He points out three major defects which he has found and that should be avoided:

(1) scales which lack any discernible underlying theoretical construct; (2) scales in which various theoretical constructs are confounded together, i.e., scales which attempt to reduce multi-dimensional attributes to single scores; (3) experimental treatments in which there is little discernible relationship between the experimental treatment applied and the scale used to measure its outcomes. (p. 101)

Both INTTOT and EORTOT have underlying theoretical constructs. INTTOT's items as judged by a panel of eight social studies and curriculum professors at the University of Florida relate to teaching about foreign peoples and places; they are international content curricular objectives. The tests of hypotheses coupled with the finding that INTTOT's mean score

was significantly different from NATTOT's and that the INTTOT-NATTOT intercorrelation is low ($r = .35$) confirms that INTTOT is indeed measuring teachers' perceptions of the relevance of using African content to achieve international curricular objectives.

EORTOT's items were judged by the same eight-member panel to be curricular objectives specifically requiring neither national nor international content but amenable to using either or both. Figure 3 shows that the pattern of intercorrelations among NATTOT, EORTOT, and INTTOT reinforced by the raw mean differences between subscales, supports the theoretical basis underlying the subscales. NATTOT and INTTOT which reflect very different subject matter domains are shown to be far apart by both a low correlation ($r = .35$) and a large raw item mean difference of 1.20. EORTOT which reflects a subject matter domain that is somewhere between NATTOT and INTTOT since it should theoretically represent a combination of the two, is found to fall between the NATTOT and INTTOT extremes on two counts, correlation coefficients and raw item mean differences. INTTOT, EORTOT, and NATTOT do then appear to represent distinct underlying theoretical constructs.

Correlations:

Subscales:

Raw item means:

Mean differences:

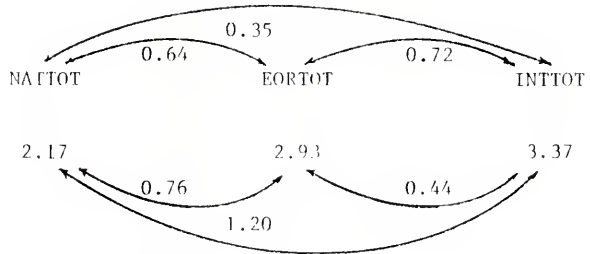


Figure 3

Correlation and Item Mean Difference Patterns
for NATTOT, EORTOT, and INTTOT

Beginning this validation study by examining all six independent subscales, the researcher has met Gardner's second criterion that various theoretical constructs not be confounded. Where multicollinearity supported theoretical expectations as in the case of cognitive and affective subscales, scales were combined to include all aspects of a single unidimensional construct. In this process NATTOT, INTTOT, and EORTOT emerged as scales measuring separate attributes. As a consequence no attempt has been made to analyze the FICAS total scores. Indeed, the FICAS total score, representing a combination of NATTOT, INTTOT, and EORTOT, is multidimensional and as such is difficult to interpret. Consequently, INTTOT and EORTOT are being recommended as separate unidimensional scales to be used in further research and evaluation.

The response to Gardner's third criterion varies for INTTOT and EORTOT in terms of the current study. Clearly INTTOT is not suited to be used as a measure of the effects of institute treatments where the self-selected participants are already high on this scale. The case is not closed on EORTOT. Theoretically EORTOT should be amenable to change as a result of institute treatment. It contains objectives for which teachers have probably not thought of using international content until they engaged in an intensive experience to increase their knowledge of foreign areas and to help them write curriculum projects to incorporate international content. There would seem to be a discernable relationship between the institute treatment and the EORTOT subscale. It remains to be shown, however, that EORTOT does indeed detect the expected change in attitude. Gardner's criteria for developing good attitude scales appear to have been met by the INTTOT and EORTOT scales.

Further Research

New Test of EORTOT's Validity

The first order of business will be to test EORTOT's ability to discriminate pre-post attitude changes as a result of institute participation. It was necessary for this study to use a multivariate F test in order to simultaneously evaluate the ability of each of the three scales of interest to detect the expected change in teacher attitude. The three scales in combination did not detect a change; however, EORTOT by itself did. Yet this latter result must be viewed with suspicion because of the nonsignificant multivariate F test. The current study has eliminated NATTOT and INTTOT from consideration to detect pre-post differences. However, it is necessary to test EORTOT, using a univariate F test, on a new institute sample independent of that used in this study. If a test based on a large enough sample is conducted, a nonsignificant result would indicate that EORTOT does not distinguish pre-post changes. A positive result would confirm expectations that it does detect real changes when they occur.

Possibility of a Non-Linear Relationship Between INTTOT and FAKS

The failure to find a significant linear relationship between the otherwise valid FICAS subscales, INTTOT and EORTOT, and knowledge of Africa raises questions about the nature of the relationship between knowledge of Africa and inclination to use African content in teaching. A nonlinear relationship may exist (see Figure 4) between the two attributes. It is quite possible that the teacher with a little bit of knowledge might be less inclined to use African content than the teacher

who knows virtually nothing. This phenomenon could occur because the little bit of knowledge a typical teacher might acquire would probably come from Tarzan movies, Idi Amin news reports, or from mythological relics of the colonial era. Such sources of information are hardly likely to inspire a teacher's using African content for curricular purposes. However, as knowledge of Africa increases in both breadth and depth so that teachers can understand African societies as making a contribution to human understanding, these teachers would be more and more inclined to use African content. A preliminary look at the data in this study lends support to this theory with respect to INTTOT. For the pilot sample whose knowledge level was significantly lower than the institute pre sample, there was observed a negative correlation between INTTOT and FAKS. For the institute pre group there was a moderate positive relationship. For the institute post group whose knowledge level was significantly higher than the institute pre sample, an even stronger positive relationship between INTTOT and FAKS was observed. A study is needed to adequately test the possibility of a nonlinear relationship between knowledge of Africa and teachers' inclinations to use African content to accomplish international objectives.

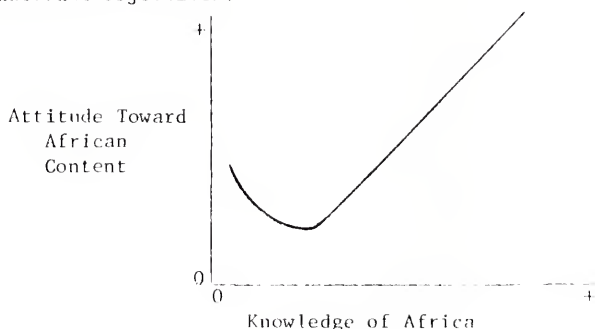


Figure 4

Hypothesized Relationship Between Knowledge of Africa
and Attitude Toward African Content

Validity Studies for Other International Areas

In another line of research the Florida International Curriculum Assessment Scales need to be validated for international content areas other than Africa. The items on the scales, curricular objectives, should be as appropriate for measuring teacher attitude toward teaching about other areas of the world as they have been shown to be for measuring teacher attitude toward African content. Since none of the items needs to be changed, the FICAS only needs to have two words changed in its instructions (Appendix C) to alter it to test teacher attitude toward Latin American, European, or Asian content. More generic terms such as non-Western, foreign, or non-American could also be tested. Although this study focused on validating the African content because of the availability of data from two African studies summer institutes for teachers, there is every reason to suspect that the instrument would be useful for other international content areas -- hence the word "International" in its title.

Nomological Network

Additional validity studies should be carried out to relate scores on INTTOT and EORTOT to other constructs and to teacher performance. According to Cronbach and Meehl (1967), to be scientifically admissible a construct must occur in a nomological net, at least some of whose laws involve observables. They define a nomological network as an interlocking system of laws which constitute a theory (p. 255). The laws in a nomological net may involve three types of relationships. First, observable properties may be related to each other; second, theoretical constructs

may be related to observables; and third, different theoretical constructs may be related to one another (p. 255). This study has begun the third part by demonstrating a moderate relationship of the constructs measured by INTTOT and EORTOT to that measured by the Worldmindedness Scale.

Yet more needs to be done in this third area to more completely describe the relationship between the constructs measured by INTTOT and EORTOT and other constructs. One potentially fruitful relationship to investigate would be that between attitude toward including international content and belief systems as defined by O.J. Harvey (1967; Harvey, Hunt, & Schroder, 1961). He has described four systems of belief along a concreteness-abstractness continuum. One would expect to find a positive relationship between the abstractness with which a teacher thinks and willingness to use international content. Belief systems have been related to attitude changes (Harvey, 1967), parent child relations (Harvey & Felknor, 1970), classroom atmosphere and student performance (Harvey, Prather, White, & Hoffmeister, 1968), and along with subject matter and sex of teacher to students' grade achievement and student perception of teachers (Harvey, Wells, Schmidt, & Grimm, 1973). Consequently, if a relationship between attitude toward international content and belief systems can be shown, a big step in developing the nomological net around the new construct will have been taken.

Another potentially productive area of research for expanding the nomological network around the construct measured by INTTOT and EORTOT would be to investigate the relationship between level of teacher cognitive moral development (Kohlberg, 1964, 1969, 1970, 1973) and attitude toward using international content. Erb (1976) has argued that

international or cross-cultural studies are essential for achieving the higher levels of moral development. However, it remains to be demonstrated that a positive relationship does in fact exist between attitude toward international content and higher levels of moral development.

Cronbach and Meehl's (1967) second category for the laws in a nomological net is the relationship between theoretical constructs and observables. To further validate the INTTOT and EORTOT subscales one would have to observe the classroom teaching of those who achieve different levels on the two scales to see if differences in the use of international content did exist. Although attitude is an inclination to behave in a certain way and not a behavior in its own right (Fishbein, 1967, p. 260; Shaw & Wright, 1967, p. 6; Thurstone, 1967, p. 78), attitudes must predict behaviors to make them worth worrying about. Such variables as the time teachers spend on international topics, the variety of ways they introduce international content, or the number of times they accept student initiatives to introduce international ideas into lessons are some of the teacher behaviors which might be looked at and related to scores on EORTOT and INTTOT.

Applications

Basic Research

There are two general areas in which the FICAS could be put to good use. One area is in basic research into attitude formation. As the nomological net is built up around attitude toward using international content in the curriculum, it will be possible to test hypotheses about what variables contribute to the formation of this attitude. A causal

model could be developed and tested by path analysis (Blalock, 1964, 1971; Heise, 1969, 1975; Wright, 1921, 1934). Both measures of constructs and observables could be entered into analysis. Background variables such as previous exposure to international situations such as foreign travel or meeting foreign visitors or formal study such as course work or study abroad might form one cluster of variables related to attitude formation. Personality factors might form another cluster of traits which could be shown to have a bearing on attitudes toward using international content. Environmental factors such as school climate, type of community, or aspirations of students might contribute yet a third set of factors affecting teachers' attitudes toward international content. The possibilities appear endless for investigating the factors related to the formation of the attitudes measured by INTTOT and EORTOT.

Evaluation and Teaching

The instruments developed by this study, INTTOT, EORTOT, and FAKS total score, could be used in evaluation studies. Pending further validation studies on EORTOT, that scale could be used to evaluate the results of teacher inservice programs. Intensive institutes and year-long programs could be candidates for evaluation using EORTOT. If the teacher participants were not self-selected so that their initial INTTOT scores were very high, INTTOT might also be used to evaluate such inservice efforts.

INTTOT and EORTOT could be used in preservice teacher education to measure where teacher candidates were in their thinking about international content in the curriculum. INTTOT and EORTOT used with preservice teachers might be employed either in more basic research or evaluation

of efforts to make teacher candidates more inclined to use international content.

Finally INTTOT and EORTOT might be used in conjunction with curriculum research. Efforts to modify curricula often necessitate changes in instruction as well. An effort to internationalize the curriculum in a given school district could be supported by knowledge of where the teachers stood in their attitudes toward including international content in the curriculum. These instruments could be used in teaching as well as research devices in an effort to change curricula. The objectives which make up the items of FICAS could be used to sensitize teachers to the applications of international content to both international and either/or objectives, or to nationalistic objectives on a comparative basis. However, using the scales for teaching precludes their use with the same group of teachers for research purposes.

Conclusion

In this study two attitude scales and a knowledge scale were developed that can be used to further research and evaluation in the area of international curriculum and instruction. Validated for African content, INTTOT and EORTOT stand ready for validation and application in a wide range of international studies areas. These scales have potential for basic research into the formation of attitudes and the consequences of certain attitudes. They can serve a useful purpose in evaluation, measuring change as a result of inservice or preservice treatment. Finally, they could be used for teaching devices by having teachers focus on the individual items (i.e., curricular objectives) in an effort to develop strategies for using international content for achieving the objectives.

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APPENDIX A
INSTRUMENT USED TO CATEGORIZE 90 OBJECTIVES AS NATIONALISTIC,
INTERNATIONAL, OR EITHER/OR, INCLUDING THE TALLY OF RESULTS

Attached is a list of 54 cognitive and 36 affective objectives which could be selected in developing a social studies curriculum. Some objectives focus on America and can best, perhaps only, be pursued using content derived from the American experience. Other objectives are more international, or global, or intercultural, in focus so that they could only be achieved by using content which is derived from other cultures, nations, and peoples. A third set of objectives are harder to classify as to their American or international focus. That is, they could be achieved by using American content or international content or a combination of both.

After reading each objective, please mark the category into which you think it should be placed.

- If an objective would require mainly American content to achieve, place a check in Column I.
- If an objective would require international or global content to achieve, place a check in Column II.
- If an objective does not specifically require either American or international content but could be developed with either or both, place a check in Column III.

EXAMPLES:

Column			
I	II	III	Students should . . .
X			1. understand the U.S. Constitution
	X		2. have a knowledge of Chinese dynasties
		X	3. know the role of natural resources in production

COGNITIVE OBJECTIVES

Column			
I	II	III	Students should . . .
	6	2	1. have a knowledge of world history
	6	2	2. comprehend the gulf between rich and poor countries
8			3. understand the consumer's role in the American economy
		8	4. understand social conflict
		8	5. comprehend the role of labor in production
	6	2	6. understand different ways of life on different continents
7		1	7. have a knowledge of social change in America
7		1	8. comprehend the process of aging in our society
		8	9. understand the causes and effects of historical events
7		1	10. know about the impact of technology on modern life in America
	7	1	11. have a knowledge of the relationship between environment and ways of making a living around the world
	7	2	12. understand the relationship between colonialism and nationalism
		8	13. have a knowledge of social interaction
		8	14. know about the role of government

Column			Students should . . .
I	II	III	
	6	2	15. have a knowledge of world geography
8			16. have a chronological knowledge of major American historical events
7		1	17. have a knowledge of the structure of American government
	5	3	18. have a knowledge of different cultures
7		1	19. comprehend the principles of American democracy
	1	7	20. understand the principles of cooperation among people
	7	1	21. know the location of the world's major resources
6		2	22. understand the American economic system
	1	7	23. understand interaction among various social groups
1	1	6	24. understand urbanization
6		2	25. have a knowledge of various American ethnic groups
	2	6	26. understand the causes of war
	5	3	27. comprehend different systems of government
5		3	28. comprehend the pluralistic nature of American society
8			29. know the major products of the student's home state
3 ^a	3 ^a	3 ^a	30. comprehend American foreign policy
	6	2	31. understand different patterns of family organization around the world
3 ^a	4 ^a	3 ^a	32. comprehend America's rise to a position of world power
	3	8	33. comprehend cultural diffusion
	1	7	34. understand the exchange of goods and services

Column			Students should . . .
I	II	III	
	6	2	35. know of different patterns of consumption throughout the world
7		1	36. comprehend their roles as members of their own communities
	1	7	37. understand the balance of nature
	1	7	38. understand the relationship between continuity and change
7	1		39. know about the growth of the American nation
7		1	40. have a knowledge of the impact of Anglo culture on American Indian groups
	5	3	41. understand trade relations between nations
	1	7	42. know the role of economic specialization in development
	1	7	43. understand the role of leadership
	3	5	44. comprehend nationalism
	7	1	45. know the elements necessary for economic development in the emerging nations
8			46. understand the relationship of westward expansion to America's development
	1	7	47. apply historical knowledge to the understanding of contemporary problems
5 ^a	1 ^a	3 ^a	48. understand domestic racial conflict
	6	2	49. understand the problem of the world's population growth
		8	50. recognize various landforms
	1	7	51. understand the meaning of racism
	6	2	52. know about the impact of technology on developing nations
8			53. know the location of major U.S. cities
1	1	6	54. comprehend the meaning of justice

AFFECTIVE OBJECTIVES

Column			
I	II	III	Students should . . .
	7	1	1. appreciate the significance of our shrinking world
	3	5	2. transcend ethnocentrism
	2	6	3. have a desire to conserve natural resources
	2	6	4. make intelligent adjustments to change
1 ^b		6 ^b	5. accept the responsibility to function well as a group member
1	1	6	6. develop a commitment to eradicating injustice
	5	3	7. appreciate the values of other cultures
5		3	8. appreciate the contributions of all ethnic groups to American development
2 ^b	1 ^b	4 ^b	9. become a happy family member
1	1	6	10. experience multiple loyalties
1	1	6	11. accept the limitations of national power
	1	7	12. appreciate artistic expression
6	1	1	13. be proud of our national accomplishments
2	3	3	14. appreciate the aesthetic in our present civilization
3		5	15. become a judicious consumer
		8	16. respect the ideas and opinions of others
	7	1	17. develop a global perspective
		8	18. promote social progress
	5	3	19. accept the moral implications of mankind's growing interdependence
	7	1	20. develop a sense of belonging to a world community
5 ^b	2 ^b		21. feel pride in being an American
	1	7	22. accept change as a natural feature of the human condition

Column			
I	II	III	Students should . . .
1		7	23. become committed to rational action to solve social problems
7	1		24. support efforts to protect America's environment
	4	4	25. feel pride in all human accomplishments
4		4	26. demonstrate good citizenship
7		1	27. appreciate the rights and responsibilities of American citizenship
1	1	6	28. appreciate contributions to society of those who represent different social backgrounds
	5	3	29. be committed to human welfare on a worldwide basis
2	1	5	30. demonstrate a tolerance for social differences
6		2	31. become committed to assuming civic responsibility in one's own community
	1	7	32. tolerate ambiguous and conflicting information
4		4	33. act in accord with democratic principles and values
	7	1	34. develop a respect for foreigners as human equals
	7	1	35. acquire worldmindedness
	5	3	36. be aware of their misconceptions about other people

^aMultiple responses were recorded by some respondents.

^bSome responses were omitted by respondents.

APPENDIX B
FAKS ITEM ANALYSIS

Table 6

The Biserial Correlations Between the 30 Items Selected
for Inclusion on the FAKS and the FAKS Total Score

Item	Biserial <u>r</u>	Item	Biserial <u>r</u>
1	.40	16	.53
2	.47	17	.52
3	.44	18	.50
4	.68	19	.18
5	.49	20	.59
6	.32	21	.73
7	.45	22	.66
8	.59	23	.63
9	.43	24	.50
10	.45	25	.72
11	.22	26	.76
12	.44	27	.49
13	.66	28	.66
14	.53	29	.57
15	.48	30	.69

APPENDIX C
FLORIDA INTERNATIONAL CURRICULUM ASSESSMENT
SCALES SHOWING SUBSCALE STRUCTURE

Instructions for Completing the Scales

TASK 1

Beginning on the next page is a list of 48 objectives which could be selected in developing a K-12 school curriculum. Various teachers and supervisors would place different emphasis on the importance of choosing these several objectives.

Now you have the opportunity to rate each objective according to how important you think it is to include it in the K-12 curriculum.

Record your judgements in Column A by circling the number that corresponds to your view. Use the following as a guide to marking your responses in Column A: 0 equals "insignificant" and 5 equals "absolutely essential;" numbers 1 through 4 represent increasing degrees of importance between the two endpoints.

TASK 2

After evaluating the importance of each objective, you are asked to make a second judgement concerning each objective. Curriculum objectives usually can be achieved in several different ways, depending on available materials, teacher and student interest, etc.

In column B please record your judgements about the relevance of the study of AFRICAN peoples and places for achieving each objective.

Regardless of what you know about specific materials that may be currently available, rate the usefulness of employing AFRICAN content for reaching the stated objective. Use the following as a guide for marking your answers in Column B: 0 equals "useless" and 5 equals "indispensible;" numbers 1 through 4 represent increasing degrees of usefulness between the two endpoints.

AN EXAMPLE

A	Students should . . .	B
0 ① 2 3 4 5	1. comprehend American foreign policy	0 1 2 ③ 4 5
0 1 2 3 ④ 5	2. demonstrate a tolerance for social differences	0 1 ② 3 4 5

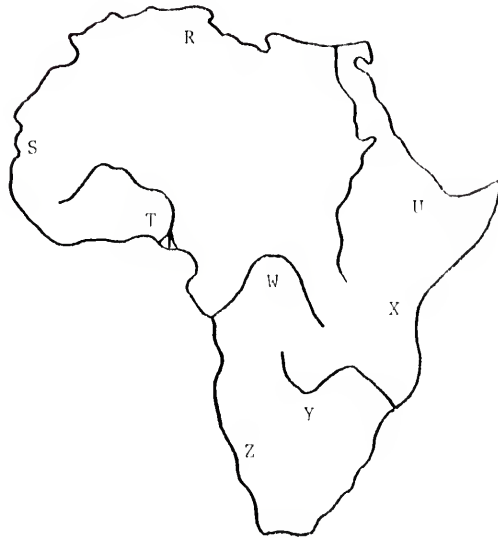
A	Students should . . .	B
0 1 2 3 4 5	1. know about the impact of technology on modern life in America	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	2. develop a sense of belonging to a world community	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	3. understand the exchange of goods and services	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	4. become committed to assuming civic responsibility in one's own community	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	5. understand social conflict	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	6. apply historical knowledge to the understanding of contemporary problems	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	7. comprehend the gulf between rich and poor countries	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	8. become committed to rational action to solve social problems	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	9. tolerate ambiguous and conflicting information	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	10. understand the balance of nature	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	11. understand the problem of the world's population growth	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	12. know about the role of government	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	13. acquire worldmindedness	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	14. develop a respect for foreigners as human equals	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	15. know the role of economic specialization in development	0 1 2 3 4 5 EORTOT

A	Students should . . .	B
0 1 2 3 4 5	16. appreciate the significance of our shrinking world	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	17. promote social progress	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	18. be proud of our national accomplishments	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	19. have a knowledge of world geography	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	20. understand the relationship of westward expansion to America's development	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	21. recognize various landforms	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	22. feel pride in being an American	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	23. have a knowledge of the structure of American government	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	24. have a desire to conserve natural resources	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	25. understand interaction among various social groups	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	26. understand the relationship between continuity and change	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	27. understand different ways of life on different continents	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	28. have a knowledge of the impact of Anglo culture on American Indian groups	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	29. accept the limitations of national power	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	30. have a chronological knowledge of major American historical events	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	31. develop a global perspective	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	32. understand the causes and effects of historical events	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	33. understand urbanization	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	34. appreciate contributions to society of those who represent different social backgrounds	0 1 2 3 4 5 EORTOT

A	Students should . . .	B
0 1 2 3 4 5	35. have a knowledge of social change in America	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	36. accept change as a natural feature of the human condition	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	37. appreciate artistic expression	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	38. experience multiple loyalties	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	39. have a knowledge of various American ethnic groups	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	40. have a knowledge of the relationship between environment and ways of making a living around the world	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	41. understand the meaning of racism	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	42. have a knowledge of world history	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	43. understand the consumer's role in the American economy	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	44. understand the relationship between colonialism and nationalism	0 1 2 3 4 5 INTTOT
0 1 2 3 4 5	45. respect the ideas and opinions of others	0 1 2 3 4 5 EORTOT
0 1 2 3 4 5	46. support efforts to protect America's environment	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	47. appreciate the rights and responsibilities of American citizenship	0 1 2 3 4 5 NATTOT
0 1 2 3 4 5	48. know about the impact of technology on developing nations	0 1 2 3 4 5 INTTOT

APPENDIX D
FLORIDA AFRICAN KNOWLEDGE SCALE

Questions 1-4 refer to the map of Africa shown below. For each question choose the letter from the map which best completes the statement or answers the question and circle the corresponding letter beneath each question.



1. The equator passes through: A. R
B. S
C. W
D. Z
2. Of the following, the area with the highest elevation: A. T
B. W
C. U
D. Z

3. Victoria Falls on the Zambezi is closest to: A. T
B. U
C. W
D. Y
4. The country of Nigeria is closest to: A. T
B. U
C. X
D. Y

Questions 5-30 are multiple-choice questions. For each question, select the word or phrase which best completes the statement or answers the question and circle the letter corresponding to the correct answer beneath each question.

5. The largest lake in Africa is Lake: A. Chad
B. Victoria
C. Tanganvika
D. Malawi
6. The highest mountain in Africa, Mount Kilimanjaro, is located in:
A. Tanzania
B. Kenya
C. Zaire
D. Republic of South Africa
7. The distance from the northern tip of Africa to the southern tip is approximately: A. 250 miles
B. 5,000 miles
C. 14,000 miles
D. 25,000 miles
8. The west coast of Africa touches the: A. Pacific Ocean
B. Arctic Ocean
C. Indian Ocean
D. Atlantic Ocean
9. In the 1600's Africans: A. had many strong kingdoms
B. lacked towns or cities
C. began worshiping European explorers
D. developed forms of political organization for the first time
10. Which of the following existed in Africa: A. Songhai Empire
B. Mongol Empire
C. Gupta Empire
D. Aztec Empire

11. Which of the following has been most influenced by Arabic culture?
 - A. Nigeria
 - B. Zanzibar
 - C. Ethiopia
 - D. Ghana
12. The greatest number of countries in Africa south of the Sahara became independent:
 - A. before 1945
 - B. between 1945 and 1960
 - C. between 1960 and 1970
 - D. after 1970
13. Mungo Park, Sir Richard Burton, and Henry Stanley:
 - A. were explorers
 - B. served as Christian missionaries
 - C. died in Africa
 - D. came from the United States
14. The Berlin Conference of 1884-85 resulted in:
 - A. the independence of many African countries
 - B. the establishment of European claims to most of Africa
 - C. the division of German colonies between England and France
 - D. a policy of training Africans for eventual self-government
15. Which of the following is a Bantu language?
 - A. Khoisan
 - B. Zulu
 - C. Amhara
 - D. Afrikaans
16. Of the following countries, which has the largest white population?
 - A. Nigeria
 - B. Liberia
 - C. Zaire
 - D. Republic of South Africa
17. Traditional religions of Africa south of the Sahara stress a belief:
 - A. in Heaven as reward and Hell as punishment
 - B. in a Supreme Force or Being who created the universe
 - C. in the Ten Commandments
 - D. in the necessity of human sacrifice to please the gods when they are angry
18. The economy of the Masai people of East Africa is based on:
 - A. Industry
 - B. Agriculture
 - C. Mining
 - D. Herding
19. Cabora Bassa Dam, potentially one of the world's largest hydroelectric projects is located in:
 - A. Nigeria
 - B. Mozambique
 - C. Republic of South Africa
 - D. Zaire

20. Which of the following pairs matches a product with the area where it is produced?
- A. Silk - Ghana
 - B. Petroleum - Tanzania
 - C. Rubber - Liberia
 - D. Tea - Niger
21. A chief product of Zaire is:
- A. peanuts
 - B. petroleum
 - C. copper
 - D. wool
22. Most people in Africa south of the Sahara earn their living working as:
- A. farmers
 - B. hunters
 - C. factory workers
 - D. fishermen
23. Which European country retained its colonies until after 1970 only to lose them in wars of independence?
- A. France
 - B. Britain
 - C. Belgium
 - D. Portugal
24. Zimbabwe is the African name for:
- A. Congo
 - B. Republic of South Africa
 - C. Rhodesia
 - D. Southwest Africa
25. Which person served for 44 years as the Emperor of Ethiopia?
- A. Sekou Toure
 - B. Haile Selassie
 - C. Julius Nyerere
 - D. Leopold Senghor
26. The man that unified Zaire after a post-independence civil war was:
- A. Yakubu Gowon
 - B. Sekou Toure
 - C. Kenneth Kaunda
 - D. Mobutu Sese Seko
27. The leader of independent Tanzania has been:
- A. Jomo Kenyatta
 - B. Mobutu Sese Seko
 - C. Julius Nyerere
 - D. Samora Machel
28. The capital of Ghana is:
- A. Kinshasa
 - B. Dakar
 - C. Nairobi
 - D. Accra

29. The Mau-Mau rebellion took place in: A. Kenya
B. Ghana
C. Republic of South Africa
D. Liberia
30. In terms of dollar value, the most important exports of Africa south of the Sahara are: A. mineral products
B. agricultural products
C. manufactured goods
D. services

APPENDIX E
WORLDMINDEDNESS SCALE

Please read each item carefully and circle the choice that most closely corresponds to your position. Thank you for your cooperation.

Choice Codes: SA = Strongly Agree; A = Agree; MA = Mildly Agree; MD = Mildly Disagree; D = Disagree; SD = Strongly Disagree.^a

1. Our country should have the right to prohibit certain racial and religious groups from entering it to live.
2. Immigrants should not be permitted to come into our country if they compete with our own workers.
3. It would be a dangerous procedure if every person in the world had equal rights which were guaranteed by an international charter.
4. All prices for exported food and manufactured goods should be set by an international trade committee.
5. Our country is probably no better than many others.
6. Race prejudice may be a good thing for us because it keeps many undesirable foreigners from coming into this country.
7. It would be a mistake for us to encourage certain racial groups to become well educated because they might use their knowledge against us.
8. We should be willing to fight for our country without questioning whether it is right or wrong.
9. Foreigners are particularly obnoxious because of their religious beliefs.
10. Immigration should be controlled by an international organization rather than by each country on its own.
11. We ought to have a world government to guarantee the welfare of all nations irrespective of the rights of anyone.
12. Our country should not cooperate in any international trade agreements which attempt to better world economic conditions at our expense.

13. It would be better to be a citizen of the world than of any particular country.
14. Our responsibility to people of other races ought to be as great as our responsibility to people of our own race.
15. An international committee on education should have full control over what is taught in all countries about history and politics.
16. Our country should refuse to cooperate in a total disarmament program even if some other nations agreed to it.
17. It would be dangerous for our country to make international agreements with nations whose religious beliefs are antagonistic to ours.
18. Any healthy individual, regardless of race or religion, should be allowed to live wherever he wants to in the world.
19. Our country should not participate in any international organization which requires that we give up any of our national rights or freedom of action.
20. If necessary, we ought to be willing to lower our standard of living to cooperate with other countries in getting an equal standard for every person in the world.
21. We should strive for loyalty to our country before we can afford to consider world brotherhood.
22. Some races ought to be considered naturally less intelligent than ours.
23. Our schools should teach the history of the whole world rather than of our own country.
24. An international police force ought to be the only group in the world allowed to have armaments.
25. It would be dangerous for us to guarantee by international agreement that every person in the world should have complete religious freedom.
26. Our country should permit the immigration of foreign peoples even if it lowers our standard of living.
27. All national governments ought to be abolished and replaced by one central world government.
28. It would not be wise for us to agree that working conditions in all countries should be subject to international control.
29. Patriotism should be a primary aim of education so our children will believe our country is the best in the world.
30. It would be a good idea if all the races were to intermarry until there was only one race in the world.

31. We should teach our children to uphold the welfare of all people everywhere even though it may be against the best interests of our own country.
32. War should never be justifiable even if it is the only way to protect our national rights and honor.

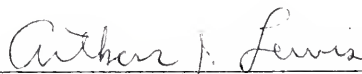
NOTE. The Worldmindedness Scale is reprinted with the permission of the authors and publisher. The Worldmindedness Scale was originally published by Donald Sampson and Howard Smith in the Journal of Social Psychology, 1957, 45, 99-106.

^aThe response alternatives which appeared along the right hand side of the page were omitted from the Appendix.

BIOGRAPHICAL SKETCH

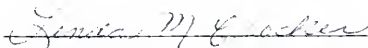
Born in Fort Wayne, Indiana, on February 18, 1945, Thomas Owen Erb was educated in Fort Wayne's public schools before attending DePauw University from which he was graduated Phi Beta Kappa in 1967. The following year Mr. Erb received his M.A.T. degree from Northwestern University, joined Phi Delta Kappa, and began his teaching career. After four years of teaching social studies in Wilmette, Illinois, Mr. Erb taught for one year at the University of Chicago Laboratory School. In 1971, he married Karen Simmons, and a year later they both began teaching at the international school in Luanda, Angola, Africa. In 1974, Mr. Erb resumed his graduate education in curriculum and instruction at the University of Florida, where he has served as a graduate assistant in both middle school education and curriculum evaluation. He is currently coordinator of outreach services for the public schools at the Center for African Studies at the University of Florida. Mr. Erb has published in the areas of middle school education, alcohol education, and international education. He is a member of the Association for Supervision and Curriculum Development, the American Educational Research Association, and the African Studies Association. He and Mrs. Erb have two sons.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Arthur J. Lewis, Chairperson
Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



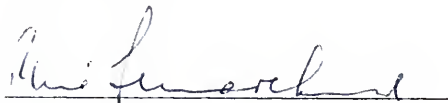
Linda M. Crocker, Cochairperson
Associate Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Gordon D. Lawrence
Associate Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

A handwritten signature in cursive script, reading "Rene Lemarchand", written over a horizontal line.

Rene Lemarchand
Professor of Political Science

This dissertation was submitted to the Graduate Faculty of the Division of Curriculum and Instruction in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December 1977

Dean, Graduate School

UNIVERSITY OF FLORIDA



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